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of the
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Volume XLIV, No. 4
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April, 1961

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THE WASHINGTON SCENE

A Report Prepared by the Washington Office of the American Medical Association

THE MEDICAL PROFESSION, the U.S. Public Health Service and the National Foundation are working together in an all-out drive to get as many persons as possible to take Salk vaccine shots before the summer polio season starts.

The Sabin live polio vaccine will not be available in quantity this year.

The Salk vaccine campaign drive is directed particularly at children and younger adults in the lower economic groups.

Doctor Julian P. Price, Florence, S.C., chairman of the American Medical Association's Board of Trustees, pointed out that many children and younger adults in the lower income groups have not been inoculated against polio.

"As long as 'islands of unvaccinated persons' exist even within well-vaccinated communities, polio epidemics remain a serious threat," Doctor Price said.

Doctor Luther L. Terry, Surgeon General of the Public Health Service, emphasized the need for immunizing infants. He also said that the PHS will encourage behavioral studies to determine reasons why some people refuse to take polio shots. It is hoped that then methods may be devised to overcome such refusal.

Doctor Terry called particular attention to the findings of the PHS's Advisory Committee on Poliomyelitis Control that the recommended dosage schedules may be modified to permit the administration of three shots of Salk vaccine before summer to persons who have not had any vaccine before.

Doctor Price stressed that success of the "babies and breadwinners" polio vaccine campaign depends on joint activity at the local level by medical societies, boards of health and voluntary health agencies. He expressed confidence that the more than 2,000 state and county medical societies throughout the country would co-operate wholeheartedly.

"Contrary to recent reports (in Scripps-Howard newspapers)," Doctor Price said, "the A.M.A. is strongly behind every effort to encourage the public to take advantage of the Salk vaccine without delay."

The Advisory Committee urged that "immediate steps . . . be taken by all interested groups to intensify drives for vaccination with the formalin-

inactivated (Salk) vaccine." The Committee also endorsed the plan to direct the campaign particularly at the lower socioeconomic and younger age groups.

The Committee recommended that the first available supplies of the Sabin live, oral vaccine be utilized in the following priority order:

1. Epidemic control, investigations and community studies.
2. Immunization of infants and preschool children.
3. Selected area immunization of those segments of the population that are least well immunized.

* * *

Congress now has before it legislation to carry out all of President Kennedy's broad health program, but it is doubtful that the lawmakers will act upon some of it this year.

Kennedy health legislation sent to Congress recently included bills on medical education and federal grants for nursing homes and other community facilities.

The Chief Executive also recommended an expanded program to combat water pollution. He requested Congress to authorize federal grants of \$125 million a year for ten years to help states forming interstate water pollution control agencies. He also recommended increased federal aid to communities building sewage treatment plants.

The President proposed creation of a special unit in the Public Health Service to handle both air and water pollution matters.

In accompanying letters to the presiding officers of the House and the Senate, Kennedy said he regarded his medical education proposals as the key-stone of the over-all health program because "we are not presently training enough (physicians) to keep up with our growing population."

The other bill would "make possible a substantial addition to the number of nursing home facilities to care for long-term patients, and . . . help relieve the shortages of home health care programs," Kennedy said.

The medical education measure would authorize federal grants for scholarships for medical and dental students. Each medical and dental school would

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THE WASHINGTON SCENE

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be eligible for a total of scholarship grants equal to \$1500 times one fourth of the enrollment after the program had been in effect for four years. The maximum individual scholarship would be \$2,000 a year. Participating schools also would be eligible for federal grants of \$1,000 per scholarship to help pay a school's operating expenses.

The community health facilities bill would increase the annual authorization for federal grants for construction of nonprofit nursing homes from \$10 million to \$20 million and raise the minimum state allotment from \$50,000 to \$100,000 per year. It also would broaden the PHS surgeon general's authority to conduct research, experiments and demonstrations on development and utilization of hospital services, facilities and resources to include other medical facilities.

Federal grants also would be authorized to help finance studies, experiments and demonstrations by states and other nonfederal agencies for development of new or improved methods of providing health services outside hospitals, particularly for chronically ill or aged persons.

The A.M.A. found "much to applaud" in Kennedy's over-all health program, but stood fast in opposing the proposal to provide elderly persons with health care through the social security system. Doctor F. J. L. Blasingame, executive vice president of the A.M.A., said:

"We support the broad principles and the general goals of the President's program, but we cannot support his proposal for hospitalization and nursing home care for persons over sixty-five under social security.

"In fact, after studying this section of the President's plan, the A.M.A. more strongly than ever reaffirms its support of the Kerr-Mills law."

DID YOU KNOW?

- That in 1960 there were more than 41,000 cases of hepatitis, a stubborn virus infection of the liver, and this was an increase of 77 per cent over the number of cases in 1959.
- That in the first six weeks of 1961 there were 9,576 cases of hepatitis, an increase of 123 per cent over the 4,300 cases reported for the same period in 1960.
- That the incidence of hepatitis is up this year in 43 states, but is lower in the following seven states—Arizona, Hawaii, Idaho, New Mexico, North Dakota, Virginia, and Wisconsin.
- That in this year's first six weeks, three states averaged more than 100 hepatitis cases a week—California, Ohio, and Tennessee.
- That infectious hepatitis most often strikes persons between the ages of five and 15.

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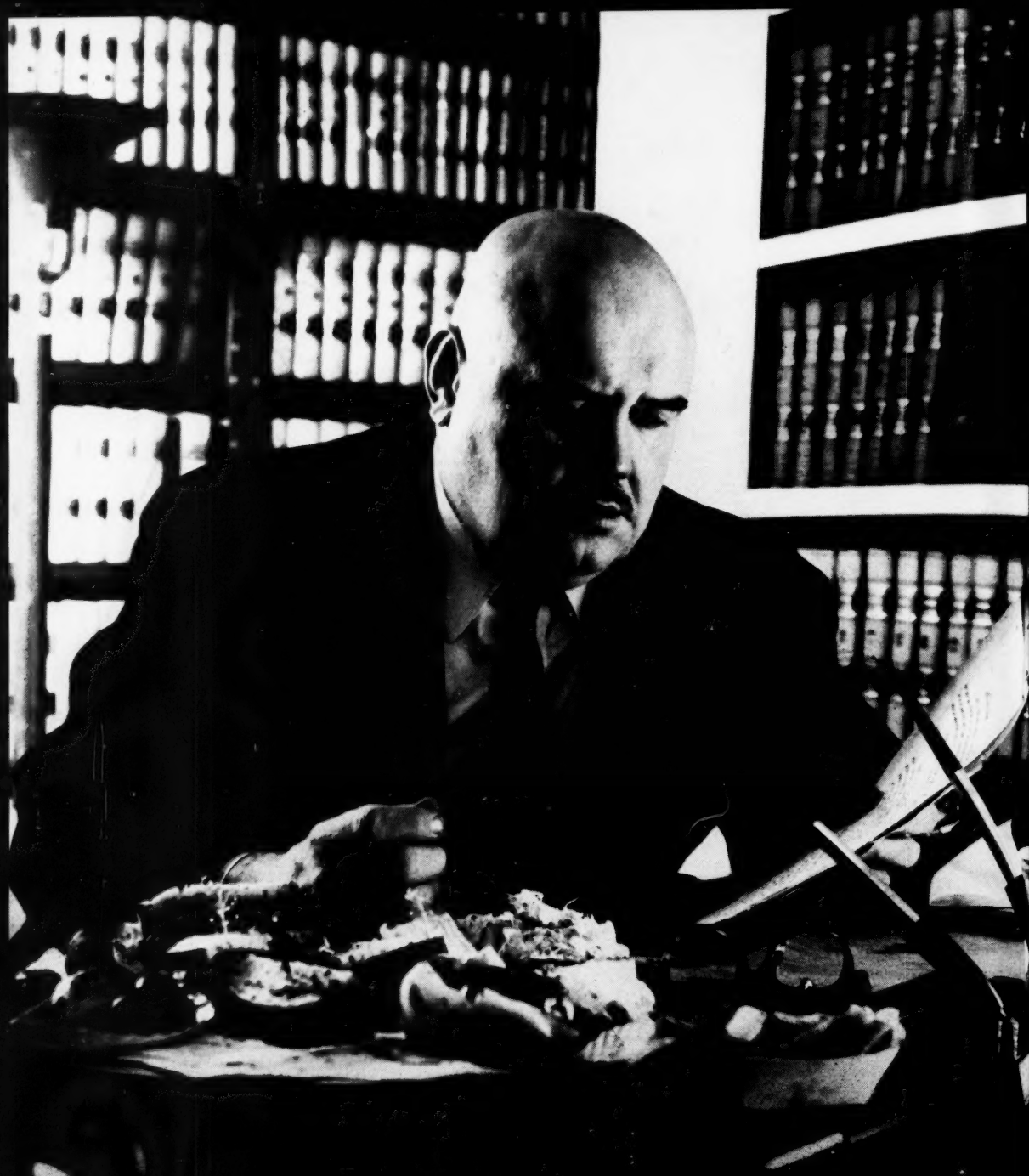
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PROGRAM OF THE 150th ANNUAL MEETING
THE RHODE ISLAND MEDICAL SOCIETY

May 2 and 3, 1961

At the Rhode Island Medical Society Library

TUESDAY, MAY 2

7:00 P.M. REGISTRATION AND TOUR OF TECHNICAL EXHIBITS

8:15 P.M. CALL TO ORDER

Greetings: EARL J. MARA, M.D., President
PRESENTATION OF AWARDS TO SCIENCE FAIR WINNERS

8:30 P.M. "CONDITIONS OF THE CARDIOVASCULAR SYSTEM
AMENABLE TO SURGERY"

FRANK GLENN, M.D.
of New York, New York

(Lewis Atterbury Stimson Professor of Surgery and Chairman of Department, Cornell University Medical College; Surgeon-in-Chief, the New York Hospital)

9:15 P.M. THE CHARLES VALUE CHAPIN ORATION
"THE CHANGING SCENE IN MEDICAL EDUCATION
AND PRACTICE"

ALEX M. BURGESS, SR., M.D.
of Providence, Rhode Island

(Director of Professional Education, Miriam Hospital, Providence, and Memorial Hospital, Pawtucket; Area Consultant, Veterans Administration; Secretary-Treasurer, Association of Hospital Directors of Medical Education; Vice Chairman, National Committee for Resettlement of Foreign Physicians; former member and Vice Chairman, Joint Commission for Accreditation of Hospitals; former member, American Board of Internal Medicine; Second Vice President, American College of Physicians, 1953-1954; Past President, New England Diabetes Association, Providence Medical Association, and Rhode Island Alpha of Phi Beta Kappa)

10:15-11:00 P.M. TOUR OF TECHNICAL EXHIBITS

WEDNESDAY, MAY 3

10:00 A.M. REGISTRATION AND TOUR OF TECHNICAL EXHIBITS

10:30 A.M. CALL TO ORDER

Presiding: FRANK W. DIMMITT, M.D., Vice President
"INDICATIONS FOR REFERRALS TO AN OUT-PATIENT
PSYCHIATRIC CLINIC"

CHARLES H. JONES, M.D.
of Providence, Rhode Island

(Superintendent, Butler Health Center, Providence; former Superintendent, Northern State Hospital, Sedro Wooley, Washington)

11:00 A.M. "PERIPHERAL VASCULAR DISEASE"—A PANEL DISCUSSION

BY RHODE ISLAND PHYSICIANS

Moderator: JESSE P. EDDY, 3D, M.D.

(Director, Vascular Service, Memorial Hospital, Pawtucket; Acting Association Surgeon, Rhode Island Hospital, Providence)

continued on page 202

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Literature available to physicians on request.

REFERENCES: 1. Carpenter, E. B.: Southern M.J. 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Hudgins, A. P.: Clin. Med. 6:2321, 1959. 4. Grisolia, A., and Thomson, J. E. M.: Clin. Orthopaedics 13:299, 1959. 5. Lewis, W. B.: California Med. 90:26, 1959. 6. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 7. Park, H. W.: J.A.M.A. 167:168, 1958. 8. Plumb, C. S.: Journal-Lancet 78:531, 1958. 9. Poppen, J. L., and Flanagan, M. E.: J.A.M.A. 171:298, 1959. 10. Schaubel, H. J.: Orthopaedics 1:274, 1959.

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PROGRAM OF THE 150th ANNUAL MEETING

continued from page 200

PANELISTS:

WILLIAM P. CORVESE, M.D.

(Assistant Surgeon, Department of Surgery, Rhode Island Hospital)

SEEBERT J. GOLDOWSKY, M.D.

(Surgeon-in-Chief, Miriam Hospital; Director, Peripheral Vascular Clinic, Rhode Island Hospital)

STEPHEN J. HOYE, M.D.

(Assistant Surgeon, Vascular Service, Memorial Hospital, Pawtucket; Assistant Surgeon, Miriam and Our Lady of Fatima hospitals, Providence; Instructor in Surgery, Harvard Medical School)

LESTER L. VARGAS, M.D.

(Director, Cardiovascular Research Laboratory, Rhode Island Hospital; Assistant Clinical Professor of Surgery, Tufts University School of Medicine)

12:30 P.M. RECESS. Buffet Luncheon at Library
TOUR OF TECHNICAL EXHIBITS

1:30 P.M. CALL TO ORDER

Presiding: SAMUEL ADELSON, M.D., President-elect

Recognition of Delegates from State Medical Associations

1:45 P.M. "NOTES ON THE BEGINNINGS OF THE RHODE ISLAND
MEDICAL SOCIETY"

SEEBERT J. GOLDOWSKY, M.D.

of Providence, Rhode Island

(Editor-in-Chief, the RHODE ISLAND MEDICAL JOURNAL; Surgeon-in-Chief, Miriam Hospital)

2:15 P.M. "THE DIAGNOSTIC VALUE OF SCINTILLATION SCANNING
WITH VARIOUS COMPOUNDS OF RADIOACTIVE IODINE
AND RADIOACTIVE MERCURY"

EDWARD A. CARR, JR., M.D.

of Ann Arbor, Michigan

(Associate Professor of Internal Medicine (Radioscope Unit), and Associate Professor of Pharmacology, University of Michigan Medical School; former Instructor in Pharmacology at Harvard Medical School; Exchange Fellow at St. Bartholomew's Hospital, London; former Assistant Professor at Michigan)

2:45 P.M. "DIURETIC THERAPY TODAY"

MILTON L. KRAMER, M.D.

of New York, New York

(Professor of Clinical Medicine, Cornell University Medical School; Attending Physician, New York Hospital; Director of Medicine, Hospital for Joint Diseases; Consultant, New York Infirmary for Women)

3:15-3:45 P.M. INTERMISSION. TOUR OF TECHNICAL EXHIBITS

3:45 P.M. "IS AMERICAN MEDICAL CARE THE BEST IN THE WORLD?"

OSLER PETERSON, M.D.

of Boston, Massachusetts

(Visiting Lecturer, Department of Preventive Medicine, Harvard Medical School; former Staff Member, and Assistant Director for Medical Education and Public Health, the Rockefeller Foundation, New York)

4:15 P.M. PRESIDENTIAL ADDRESS

EARL J. MARA, M.D.
of Pawtucket, Rhode Island
(President, the Rhode Island Medical Society)

4:45 P.M. GENERAL SESSION OF THE RHODE ISLAND MEDICAL SOCIETY
BUSINESS MEETING

(Installation of officers for 1961-1962)

5:15 P.M. RECESS. TOUR OF TECHNICAL EXHIBITS

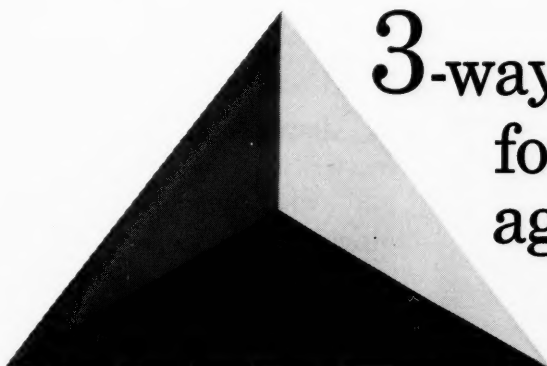
EVENING SESSION

6:00-7:00 P.M. RECEPTION. Foyer, seventeenth floor, Sheraton-Biltmore Hotel, Providence
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7:00 P.M. ANNUAL DINNER. Ballroom, seventeenth floor, Sheraton-Biltmore Hotel
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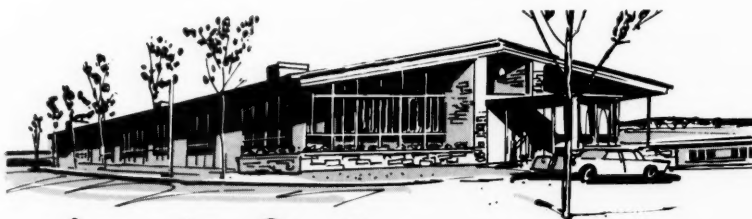
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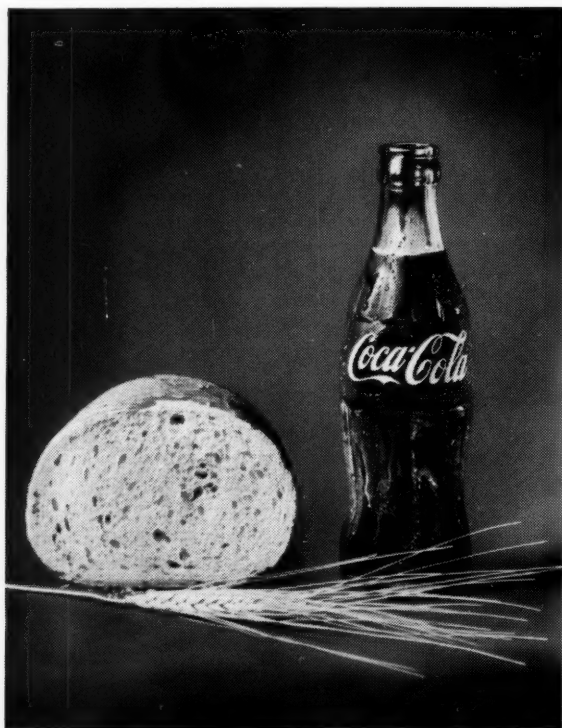


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The RHODE ISLAND MEDICAL JOURNAL

VOL. XLIV

APRIL, 1961

NO. 4

SURGICAL RESEARCH AND HUMAN PHYSIOLOGY*

F. A. SIMEONE, M.D.

The Author, F. A. Simone, M.D. of Cleveland, Ohio.
Professor of Surgery, Western Reserve University;
Director of Surgery, Cleveland Metropolitan General
Hospital.

IT IS NOT OFTEN that a surgeon is provided the opportunity to discuss the contributions of surgical research to human physiology. In fact, even as late as the turn of the century, such a topic would have been a very sterile one. But one need only review the contents of our recent surgical journals to note that a "new look" has come to surgical endeavor. At the last meeting of the American Surgical Association, nine of the papers were out-and-out contributions to mammalian physiology. The last meeting of the Society of University Surgeons had thirteen papers on physiology out of a total of twenty-three presentations. Much has been achieved since the days of de la Martinière who in 1748 had to plead with the King of France for retaining the right of education and academic standing for surgeons.

The turn of the tide came in the eighteenth century with John Hunter of St. George's Hospital, London. We may dwell briefly on this "rough and tough" Scot, for in him are seen many of the characteristics of the surgical investigator of today.¹⁶ He found surgery an empiric art and left it well on the way toward the acquisition of a scientific, physiologic foundation. Hunter was an extraordinary person. Unlike his brother William, famous in his own right, he had had little education. After he had fairly become established in London, he went to Oxford, but only for a brief time, for he left quite promptly with unconcealed lack of appreciation of what Oxford had to offer. There even is question about his date of birth, being recorded in Calderfield parish, village of Kilbride, as the thirteenth of February, 1728. The family Bible records the birth of John, the last of ten children, as the ninth of February; John himself, and the Royal College of

*Presented at the 114th Annual Meeting of the Providence Medical Association, at Providence, Rhode Island, January 2, 1961.

Surgeons took the fourteenth of February as the official birthday.

François Magendie, father of modern physiology, is credited with insistence upon experimentation and observation before accepting physiologic hypotheses. His period of influence was early in the nineteenth century. Note that in a letter to Edward Jenner on the subject of hibernation in hedgehogs, Hunter had written: "I think your solution is just; but why think? Why not experiment?" This was written at about the time that Magendie was born. Well ahead of his time, Hunter was the prototype of the biologic surgeon of today. He was interested in body temperature and hibernation. His contemporaries considered him impractical. Who could have foretold that after lying dormant for two centuries surgical interest in body temperature and hypothermia would reawaken with great vigor?^{2,5,13,33}

Hunter insisted on objective, accurate observation, an essential feature of surgical research. For example, consider what he wrote¹⁹ about the physiology of hemorrhage in man: "Nothing affects the system more than too great a loss of blood; the body becomes languid and cold, and the heart seems disposed to suspend its action, as if a natural method was instituting to stop the bleeding, and also to keep the actions of the machine proportionate to its power. But I know not what the cold sweating is to do. Animal cannot subsist long in this state, but the constitution will begin to rouse up its action again; there will be a full pulse and seeming strength, but if the weakness is very great, this apparent action or reaction of the system does not long continue. When the pulse is strong and the body warm, it would appear an indication for bleeding; but this is improper, and the loss of a small quantity of blood at this time would probably kill the patient. The rising of the pulse in hemorrhage is often an effort of Nature to live, and cannot be reduced, although it still further increases the irritability of the system." In this statement, Hunter outlined several of the important features of hemorrhagic shock as we recognize them today. Compare this lucid account with that of a description of what may have been wound

continued on next page

shock written some four decades earlier (LeDran, 1737): "When the patient turns yellow, green, or leaden colored in a short time after being wounded, it is undoubtedly owing to this, that the shock or commotion has stopped the secretion of bile, or perhaps some other liquor. And that excrementitious fluid not being so freely separated from the whole mass, as formerly; and at last transuding through the sides of small vessels, communicates its hue to every part."

Until well into the nineteenth century, the art of surgery was based upon anatomy. The successful surgeon was one so thoroughly and precisely familiar with anatomic details that he could do an operation with great dispatch. Chairs of Surgery and Anatomy were usually combined. Philip Syng Physick, of the University of Pennsylvania, was the first professor of surgery apart from anatomy in this country. He was appointed in 1805. The introduction of anesthesia (1846) and the develop-

ment of aseptic technique opened new horizons for the surgical art. In 1881, at the Allgemeine Krankenhaus of Vienna, Billroth resected the pyloric end of the stomach for cancer, and abdominal surgery became established. That same year, anterior gastrojejunostomy was done for ulcer. At about this time, emphasis passed from anatomy to pathology, for further developments in surgery depended upon the concept of organ specificity in clinical medicine, so well documented by Morgagni in 1761 ("De sedibus et causis morborum per anatomen indagatis"). Little would be accomplished by surgical removal of the appendix if appendicitis were not an organ-specific and limited disease.

Surgery flourished with surgical pathology of the late nineteenth and early twentieth centuries. But it could progress only so far before its new limitation became the inadequate knowledge and understanding of human physiology. In order for patients to withstand major surgical procedures, we had to learn with considerable precision the physiologic and biochemic changes (fig. 1) which patients undergo as the result of anesthesia, operation, trauma, and stress.^{15,23,26} Secondly, Billroth's demonstration that partial gastrectomy is technically feasible would have had little influence upon progress in abdominal surgery if it had not been demonstrated that life is reasonably normal after partial gastrectomy and, with limitations, after total gastrectomy. In other words, the physiologic limitations of surgical procedures and how to cope with them had to be learned. Finally, surgeons became compelled to learn more about human physiology because the concept of surgically modifying certain functions of the body, pathologic or otherwise, stimulated surgical enthusiasm toward a new horizon, that of "physiologic surgery" in which we presently find ourselves.

It is not surprising, then, that research by surgeons has unraveled many of the mysteries of the physiology of the endocrine glands, of the gastrointestinal tract, of the cardiovascular and cardiopulmonary systems, of the somatic and autonomic nervous systems, and of the intricate modifications, adjustments and bodily redistributions of water and electrolytes and of other elements of the "milieu intérieur." It is clearly impossible to review the contributions from surgical research to these many fields. I have taken the liberty of choosing limited aspects of two fields simply for illustration. I chose the fields of gastric and circulatory physiology.

1. *Physiology of Gastric Secretion.* In recent years, the physiology of gastric secretion has interested surgeons because of the relationship which is thought to exist between acid peptic activity and ulcerations of the esophagus, stomach, duodenum,

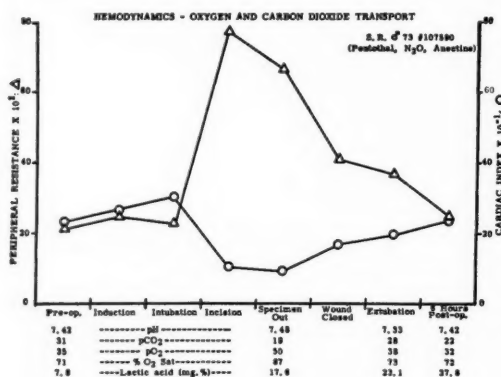


FIGURE 1

Example of physiologic and biochemic data obtained in connection with an operative procedure, cholecystectomy and choledochostomy under pentothal-nitrous oxide-anesthetic anesthesia in a seventy-three-year-old man with gallstones and pulmonary emphysema. Not shown in the chart is the right auricular pressure which rose from a preoperative level of 5 mm. Hg. to 10 and 12 mm. during induction of anesthesia and intubation; to 20 and 16 mm. Hg. during the intra-abdominal operation and gradually to the preoperative level when the incisions were closed and the intratracheal tube was removed. The rise in the auricular pressure paralleled the rise in peripheral resistance and inversely followed the fall in cardiac index. Of particular interest is the fact that the systemic blood pressure and the pulse rate remained essentially unchanged while these drastic "occult" effects on hemodynamics were being recorded. The blood pressure is maintained at the expense of tissue perfusion. This leads to metabolic or subliminal perfusion acidosis manifested by the increased lactic acid concentration but compensated for by alterations in carbonic acid. At the time the specimen was being removed, there was actually overcompensation and a mild alkalosis in the face of metabolic acidosis. These events would not have been detected without special investigation. Understanding of this sort of applied physiology is essential to further surgical progress.

and other parts of the gastrointestinal tract. While aimed at practical application, studies in this area have resulted in a great fund of information regarding the physiology of this system.

The greatest single contribution to the physiology of digestion was made by William Beaumont, a native of Lebanon, Connecticut, born on November 21, 1785, and later a surgeon in the United States Army.³ He was a surgeon *in fact*, and not alone by act of Congress. For example, after working with the wounded in the War of 1812 for thirty-six hours in succession, he wrote: "Dressed upwards of 50 patients—from simple contusions to the worst of compound fractures—more than half the latter. Performed two cases of amputation and one of trepaning. At 12:00 p.m. retired to rest my fatigued body and mind." Beaumont made his observations on gastric digestion upon Alexis St. Martin, a seventeen-year-old boy, five feet, five inches tall, who had incurred a usually fatal accidental gunshot wound of the left flank. Powder and duck shot entered the trunk from behind on the left and passed ventrally and medially. The left fifth and sixth ribs were fractured and partly carried away by the shot. The lower lobe of the left lung was lacerated, as were the left diaphragm and the stomach. He saw Alexis twenty-five or thirty minutes after the accident. Parts of the lung and of the stomach were protruding through the wound beneath the left breast.

The details of the accident which resulted in St. Martin's wound are not known with certainty. Some say that he was wounded when a shotgun in the hands of one of a group of people standing about in the Company Store of the American Fur Company was accidentally discharged. "The muzzle was not over three feet from him—I think not more than two. The wadding entered, as well as pieces of his clothing; his shirt took fire; he fell, as we supposed, dead." William Beaumont's son, however, wrote that St. Martin had dangerously wounded himself by the accidental discharge of his (St. Martin's) own gun while hunting.

Prior to Beaumont's observations, knowledge of the physiology of digestion was scant. René-A.-F. de Réaumur (1683-1757), and after him Lazzaro Spallanzani (1729-1799), had disproved the notion that the process of digestion was one of putrefaction. de Réaumur, in 1752, described the solvent action of gastric juice, which he obtained from a pet kite, upon foodstuffs. Spallanzani, in 1782, showed that saliva also had digestive powers and observed that gastric juice, so named by him, acting *in vitro* not only did not cause putrefaction, but prevented it and, if already started, kept the putrefaction from progressing. Neither de Réaumur nor Spallanzani recognized that gastric juice was acid. Indeed, the latter stated that it was neutral. The acidity of

gastric juice, now such an important consideration in clinical medicine, was not recognized until John Richardson Young's doctoral dissertation was published in 1803 when he was eighteen years old. While recognizing that gastric juice was acid, Young believed that acidity was due to phosphoric acid, and it was not until 1824 that William Prout demonstrated that acid in gastric juice was muriatic. Beaumont submitted samples of St. Martin's gastric juice to experts such as Professor Robley Dunglison of the University of Virginia and Benjamin Silliman of Yale. There was no question now that the gastric juice contained hydrochloric acid. Furthermore, Beaumont observed that chymification with gastric juice in the stomach or in the test tube was not the same as digestion with hydrochloric and acetic acid. He postulated that some substance other than these acids must be present in gastric juice. Schwann later (1846) showed that this substance was pepsin.

There is little need to recount what Beaumont contributed to our knowledge of the physiology of digestion, but one or two points are worth emphasizing. For the first time, pure uncontaminated gastric juice was obtained and characterized. It did not constantly flow. Rather, it was produced in response to the presence of food in the stomach. The presence in it of free hydrochloric acid was proved beyond doubt. He showed that different foodstuffs are "digested" with different rapidity and remain in the stomach different lengths of time. He described the mechanical activity of the stomach and its importance for "chymification." Of particular significance was the demonstration of the strong effects of the emotions upon the secretion of gastric juice and upon the digestion of food in the stomach. Interestingly, while making these observations regarding the emotions, he made no comment on "psychic" or "appetite" gastric secretion. Finally, Beaumont pointed out some evils of alcoholism, having directly observed the irritant action of spiritous liquors on the gastric lining.

Before leaving our consideration of Beaumont's contributions, it would be of interest to quote some of his remarks which have a bearing on the general philosophy of science. He recognized that, depending upon the state of the individual at the time of the experiment, different results can be obtained at different times. He wrote: "The reader will perceive some slight seeming discrepancies, which he may find it difficult to reconcile; but he will recollect that the human machine is endowed with a vitality which modifies its movements in different states of the system, and probably produces some diversity of effects from the same causes." Beaumont also made an important distinction between fact and interpretation: "I submit a body of facts which cannot be invalidated. My opinions may be doubted,

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denied, or approved, according as they conflict or agree with the opinions of each individual who may read them; but their worth will be best determined by the foundation on which they rest—the incontrovertible facts."

Since Billroth's demonstration in 1881 that partial gastrectomy can be done successfully and Woelfler's demonstration, that same year, of gastrojejunostomy for bypassing peptic ulcer, these and similar procedures have been applied in some form or other for the treatment of peptic ulcer in thousands of patients. The classic work of Pavlov early in the present century had emphasized the importance of the "cephalic" or neural phase of gastric secretion and this led to the exploration of vagus resection for achieving a diminution in the gastric secretion of acid. Careful observation of patients for whom partial gastrectomy, gastrojejunostomy, or vagotomy or combinations of the two were done for peptic ulcer revealed a number of sequelae for which explanations were not readily available, and which led to brilliantly designed experiments for their elucidation. A vast amount of work has been done, employing intricate surgical techniques for the construction of modified Heidenhain and Pavlov gastric pouches and for gastrointestinal transplants.^{cf. 11,12,14,17,20,22,25,35,36,37} I should like merely to summarize the findings as they relate to our present understanding of the physiology of gastric secretion. They are outlined in tables 1 and 2. Their application to the surgical management of peptic ulcer has not yet been fully exploited.

We cannot leave the field of gastric physiology without a comment on the perplexing relationship between tumors of the endocrine glands and ulcerative lesions of the stomach, duodenum and jejunum. Zollinger and Ellison (1955) first drew attention to the possibility that "nonfunctioning" tumors of non-specific cells of the pancreatic islets might be ulcerogenic for the gastrointestinal tract. The hyperglycemic-glycogenolytic hormone, glucagon, was implicated. Subsequent observations have cast doubt upon this particular relationship. The tumors may be situated in any of the several endocrine glands (pituitary, adrenal, pancreas, parathyroid) and they may be polyglandular. The gastrointestinal

ulcerations and other signs and symptoms of the syndrome are as common with tumors of the parathyroid glands as with tumors of the pancreas. Murphy, *et al.* (1960) in their excellent review have recently suggested that the presence of duodenal and intestinal ulceration could actually be coincidental. Be that as it may, there does appear to be a group of patients with hyperplasia, adenoma, or, in the case of the pancreas, carcinoma of one or more endocrine glands in association with bizarre ulcerations of the duodenum and intestine, very marked gastric hypersecretion, and intractable non-bloody diarrhea. The causal relationship is not clear. Both the gastrointestinal disturbances and the abnormalities of the endocrine glands could be secondary to some master-disturbance not yet uncovered.

2. *Surgical Research and the Circulation.* The physiology of circulation has interested surgeons for centuries. Gerolamus Fabricius ab Aquapendente (1533-1619), professor of surgery and of anatomy at Padua, described the delicate semilunar valves in venous trunks, but erroneously believed that the blood flow in veins was centrifugal in relation to the heart. Harvey's correct account of the circulation of blood required knowledge of the presence of these valves in veins. John Hunter¹⁹ became curious about the development and function of collateral circulation in the antler of the deer without thought of clinical application, but later based upon those observations his argument for tying the femoral artery in the abductor canal, now named after him as Hunter's canal, in cases of popliteal or lower femoral arterial aneurysms.

Interestingly, the functional importance of veins in the circulatory economy was not appreciated until quite recently. To be sure, the arrangement of veins is more like a network than is the arrangement of arteries, and individual veins, including the vena cava, can be interrupted, without jeopardizing the viability of a part. Extensive interference with venous drainage, however, can in fact lead to gangrene as severe as that resulting from arterial interruption. A clinical illustration of this fact is the condition known as phlegmasia cerulea dolens where

TABLE 1
Stimulation of Gastric Secretion

1. Neural (cephalic, "appetite", vagal, psychic).
2. Chemical and mechanical (gastric).
 - a. Gastrin (hormone, OPMAD).
3. Duodenal and intestinal (chemical).
 - a. Food partly digested by pepsin and hydrochloric acid.
 - b. Products of protein and fat hydrolysis.
4. Stress (?adrenal cortex).

TABLE 2
Inhibition of Gastric Secretion

1. Neural.
 - a. Vagal inhibitory fibers.
 - b. Sympathetic (splanchnic).
2. Chalone (XAAAD).
 - a. Action of acid upon antrum.
 - 1) Inhibition of gastrin production.
 - 2) Stimulation of antral chalone.
 - b. Duodenal and intestinal.
 - 1) Enterogastrone.
 - a) Fats, alkaline solutions, concentrated sugar.
3. Liver, (portal hypertension and gastric secretion).

gangrene of the extremity occurs as seriously as it does after the occlusion of major arterial channels.

Some years ago we became interested in the role played by the veins in the circulation of blood in the extremities. Sir George Makins had popularized the concept that when an artery is interrupted and the flow of blood to a limb is thereby limited, interruption of the companion vein improves the circulation. This belief arose from observations on casualties in the Boer War and early in World War I. Our experience in World War II, in which only acute wounds of the arteries were considered, and chronic lesions such as aneurysms and arteriovenous fistulae were excluded, did not support this concept.¹⁰ Early after the war, we investigated the question, using the electrically stimulated skeletal muscle as an index of variations in blood flow. We found that not only did obstruction of the companion vein decrease still further the circulation through muscle already impaired by arterial occlusion,²⁹ but worsened it. In fact, the evidence was that obstruction of the femoral vein impaired the function of skeletal muscle fully as much as did obstruction of the femoral artery. When both the artery and vein were occluded, improvement did not take place by releasing the artery until the vein, too, was released. This may appear to be a minor point, but the experience with vascular wounds during the Korean conflict suggested that the limb fared less well when the concomitant vein had to be interrupted than when it remained intact.

Surgeons have made other important contributions to the physiology of the circulation in man. The brilliant advances in surgery of the bypassed heart would not be possible without the physiologic understanding of the heart as a pump and without the understanding of the physiology of tissue perfusion. For brief periods of time (up to 30 minutes) the minimal requirement for total perfusion is 30 ml. per kgm. of body weight per minute, approximately half the resting normal cardiac output. This permits barely adequate perfusion of vital organs, but metabolism goes on in large areas of the body with subliminal perfusion and serious metabolic acidosis can develop.⁹ For metabolism to be nearly normal, a pump "cardiac" output of about two liters per square meter of surface area is required, a reduction of about 30 per cent from the basal normal. This can be reduced still further by the imposition of hypothermia.⁹ The demonstration that the human heart can be rendered asystolic by means of potassium and of acetylcholine, much as in lower mammals, has been of great clinical as well as physiologic importance. Young surgeons at the resident level, together with their preceptors, have contributed to this kind of physiologic knowledge.

Less dramatic, perhaps, but nevertheless intellectually stimulating, is the question of how the circula-

tion in the periphery is regulated, aside from local metabolic effects and variations in the cardiac output and in the viscosity of the blood. We have been interested in this problem for some years, and particularly from the point of view of the nervous control of the small blood vessels. The existence of sympathetic vasodilator fibers in the skin has been suggested by many investigators. The poor results of sympathectomy for advanced vasospastic disease of the hands has been attributed to the possibility that the denervated hand lacks the influence of vasodilator fibers. With Doctor Sarnoff,²⁷ now working in cardiovascular physiology at the National Institutes of Health, we tested this hypothesis by blocking the peripheral nerves in patients who were maximally vasodilated for thermoregulation. The temperature of the skin did not drop as it would have done had there been effectively active vasodilator fibers of the skin of the digits. Thus, in man, it would appear that the sympathetic outflow to the extremities is vasoconstrictor. Other causes for continued vasoconstriction in the extremities following denervation need to be found.

All who have studied patients after sympathetic denervation of an extremity are aware of the fact that when an excellent result is obtained, in terms of an increase in the circulation approaching maximal vasodilation, the effect is greatest on the very day of operation or, in some cases, the very next day. The effect is never again as great. The rate of blood flow decreases during the subsequent week or ten days to reach a level between maximal vasodilation and the preoperative vasoconstriction in a cool environment. Although the interruption of sympathetic vasodilator fibers has been blamed for poor results after sympathectomy for vasospastic states, it does not readily account for this return of partial vasoconstriction over a period of days. Indirectly, interesting speculations can be made from data obtained in studies of the digital circulation in patients for whom arterial reconstruction was done to relieve obliterative arterial disease of the extremities. These patients show a loss of peripheral vascular resistance distal to the level of arterial obstruction and lasting a few days to several weeks. During this time, although the sympathetic nervous outflow to the limb is intact, reflex or thermoregulatory vasoconstriction is ineffective. It was postulated that this phenomenon could be explained on the basis of medial atrophy as the result of chronic hypotension and that it is no longer demonstrable when medial hypertrophy has taken place after normal intravascular tension has been restored by means of arterial reconstruction. Medial degeneration and hyalinization has been reported in the arterioles of limbs amputated for arteriosclerosis obliterans.³² In addition, Strandness³¹ observed dilation of some of the arterioles which showed a

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thin media such as one would expect to see in veins. On the other hand, it is well known that arteriolar medial hypertrophy occurs when previously normal arterioles are exposed to high intravascular pressures, as in renal hypertension.

These observations can tentatively be applied to the question of the early acquisition of "intrinsic tone" by denervated vascular beds. Denervation decreases vascular resistance in the small arteries as well as in the arterioles. These latter are therefore exposed to higher pressures than normally; their media hypertrophies and develops increased tone, thereby causing a progressive increase in the vascular resistance from the time of denervation until a balance is reached. This explanation would account for the fact that under conditions which acutely induce vasodilation, the normally innervated vascular bed will exhibit a greater blood flow than that which has been denervated for a few days or longer (fig. 2).

The decrease in the effectiveness of sympathetic denervation of the blood vessels when late results are compared with early effects has been attributed to a number of physiologic and anatomic phenomena: sensitization of smooth muscle following denervation, re-innervation of denervated neurons through the process of axonal sprouting, sensitization of partially denervated postganglionic neurons, incomplete anatomic denervation, and regeneration of sympathetic nerve fibers. These several aspects of the physiology of the circulation have received a great deal of attention.^{28,24,34} Possibly, the return of vasoconstriction after sympathectomy is conditioned by more than one of the possibilities mentioned. We, as others, have recently been interested in the physiologic significance of extraganglionic sympathetic neurons.^{cf.6} Their presence outside the

paravertebral ganglia can readily be demonstrated, but Doctor Stephen Kent, working in our laboratories as a tutorial student, could not establish a relationship between the presence of these extraganglionic cells and the recurrence or not of vasomotor control after sympathectomy.

Having just argued that vasodilator fibers are not present in the sympathetic outflow to the skin, I should now like to turn to an interesting possible exception, namely the skin of the face. When one denervates the extremity, the difference in color and warmth between it and the opposite, still innervated, hand or foot is immediately obvious. Such a difference is not seen in the face. After resection of the stellate ganglion, there are visible effects upon the eye (Hale-Horner's syndrome), sweating ceases in the ipsilateral side of the face and scalp, but no effect is grossly detectable upon the circulation of the skin of the face. Now, if such a patient is told embarrassing things, is exposed to a hot environment, or is made to exercise, the denervated side remains unchanged in color; the opposite side becomes red as with blushing. A sharp sagittal line of demarcation is obvious from forehead to chin. We are inclined to believe that the blushing is due to activation of vasodilator fibers in the cervical sympathetic. The lack of blushing on the denervated side would be due to the interruption of such fibers. Certainly, blushing is not due to inhibition or cessation of vasoconstrictor tone, for we do not see it early or late after sympathetic denervation of the face. There remains the possibility that the unilateral or normal blush is in fact not due to activation of vasodilator sympathetic fibers in the cervical sympathetic, but possibly to a by-product of sweat gland activity with the liberation of a local hormone (bradykinin) which has a dilatory effect upon the local vessels. The denervated side does not sweat; hence this hormone is not locally produced and vasodilation, or blushing, does not occur on that side. Further tests are needed to settle this point.

Epilogue

The contributions of surgical research to human physiology are manifest. For illustration I have drawn from only a few fields in which surgeons have made essential contributions. There are others. Indeed, one now would have difficulty identifying an area of human physiology to which surgery has not made important contributions. Some have been made in the operating room, such as observations upon the localization of function in the cerebral cortex; others have been made in the laboratory, such as observations on pulmonary function and acid-base balance, clarification of the endocrine and metabolic response to trauma; still others have been made at the bedside or in the clinic as observations on physiologic alterations after surgical procedures. None should be as qualified to make these sub-

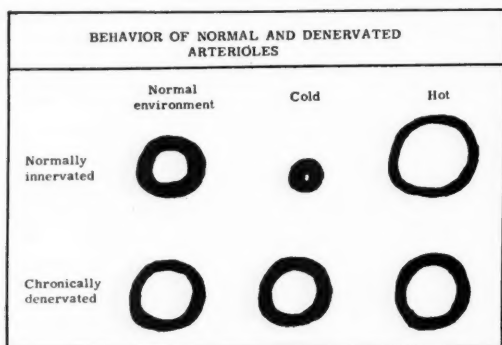


FIGURE 2

A diagram of theoretical changes in the behavior of small blood vessels after denervation. Some degree of medial hypertrophy may take place after denervation so that, in contrast to the comparison on exposure to cold, the vascular resistance of the denervated vessels may be greater than that of the normally innervated structures when exposed to conditions which induce vasodilation.

quent observations as is the surgeon who performed the operative procedure.

One may wonder how it has come about that surgeons may make significant contributions to human physiology. First of all, the surgeon is the sort of person who is especially likely to need proof before he accepts statements. He is apt to dislike authority and does not regiment well. He is likely to have tenacity of purpose and to go to extremes in search of knowledge. Beaumont studied Alexis in four periods between May 1825 and November 1833. Between times, Alexis, a *voyageur* at heart, would disappear, and Beaumont would seek him out, practically bribe him to return to him from distances of one or two thousand miles and even hired him into his household. Unless available evidence on a question is quite clear, the surgeon is of such mind that he must find out for himself, and he must do so quickly, sometimes too quickly. He has little patience for procrastination and for forgetting that a problem exists. I know few surgeons who are overly contemplative; I know many who are not sufficiently so; and I feel privileged to know some who possess a happy balance between action and contemplation. A second factor in the emergence of the biologic surgeon is that the countenance of surgery has changed from one of bravado and swashbuckling* activity to that of an applied arm of the biologic sciences. This change was ushered in by the Hunters in England. In America, Philip Syng Physick, a resident pupil of John Hunter's at St. George's Hospital, might have planted the Hunterian seed, but the time was not right. He must have become seriously discouraged, for in 1815 he resigned from the chair of surgery and became professor of anatomy.⁸ John Collins Warren saw that the time for the new approach to surgery had come by the end of the nineteenth century,^{8,9} and Halsted at the Johns Hopkins became its champion just before the turn of the century. Rhode Island may properly take a certain amount of credit for this, because early in his career Halsted could not have been considered an exponent of the biologic sciences in surgery. He was a very successful energetic surgeon of the "old school." But then, during parts of 1886 and 1887, he became a patient at Butler Hospital, in Providence, Rhode Island. Whether or not he was cured of the cocaine habit is still disputed, but none doubts that Halsted was a different person after this experience. He became thoughtful, introspective, meticulous, and precise. His important contributions to surgery came after this time.

Thus thought and reflection were added to the vigorous technical activities of the surgeon. Indeed, a broad background in general medicine has become

an important part of the surgeon's education. Some had seen the need for this very early. In his Hunterian Oration for the year 1819, John Abernethy² wrote: "Medicine is one and indivisible; it must be learned as a whole, for no part can be understood, if studied separately. The physician must understand surgery, and the surgeon the medical treatment of disease. Indeed, it is from the evidence afforded by external disease, that we are enabled to judge the nature and progress of those that are internal; which appeared so clearly to Boerhaave, that, though his object was to teach his pupils the practice of medicine, he began by teaching them surgery." This same great surgeon (1815), although he lived in the anatomic era of surgery, preceding the pathologic era, wrote this of physiology:¹ "No study can surely be so interesting as Physiology. Whilst other sciences carry us abroad in search of objects in this we are engaged at home, and on concerns highly important to us; in enquiring into the means by which we live, and move, and have our being. To those, however, engaged in the practice of medicine, the study of Physiology is indispensable; for it is evident that the nature of the disordered actions of parts or organs can never be understood, nor judiciously counteracted, unless the nature of their healthy actions be previously known."

Finally, the introduction by Halsted of a system of graduate surgical education in this country is probably the most important development which has made the biologic sciences so much a part of surgery. This system has brought about certain inevitable changes in hospital staffing. For example, our surgical outpatient clinics are no longer overly populated by surgeons in the process of acquiring surgical judgment and awaiting an opportunity for a service on the wards in order to acquire more judgment and technical facility. For hospital administrators and for chiefs of services, this may be a disadvantage. It is outweighed, however, by the development of young surgeons who have been given the opportunity to reflect upon their daily clinical problems, to raise questions about them, and to take time for subjecting the questions to critical scientific study. From this new appreciation of clinical surgery have come today's remarkable advances in cardiac surgery, in the understanding and proper management of trauma, the rational basis for the treatment of conditions in which there has been a radical disturbance in the disposition of water, electrolytes, and other elements of the "milieu intérieur," and the understanding and evaluation of problems of ventilation in anesthesia, surgery within the thorax, and surgery among the elderly. Young men and women with this heritage as background and with an unlimited future before them

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*A swashbuckler is defined in Webster's dictionary as a "blustering daredevil."

will continue to contribute to physiology, biochemistry, immunochemistry, and even to the problems of genetics. Activities such as these will some day render commonplace the transplantation of tissues and organs.

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CHAPIN FELLOWSHIP

The Superintendent of the Charles V. Chapin Hospital in Providence has announced that a Chapin Fellowship for the study of contagious diseases is available. The Fellowship provides a monthly stipend and the hospital will furnish living accommodations and necessary equipment. Additional information, and an application blank, may be obtained by corresponding with the Superintendent at the hospital.

PSYCHIC ENERGIZERS IN THE DEPRESSED PATIENT*

LAURENCE A. SENSEMAN, M.D.

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PSYCHIC ENERGIZERS are now very popular. The group known as mono-oxidase inhibitors are perhaps the best known. They are serving a useful purpose in depressed patients. Each day the mail is filled with attractive and expensive brochures extolling the virtues of this or that new drug and minimizing the side reactions. Needless to say, much work has been done on these drugs long before they reach the detail man for general distribution. The trade names of these drugs are hard to keep up with, and their chemical names even much more difficult (Table I).

Psychiatry today is being oversimplified, it would seem to me, by drug companies eager to sell their products. For instance, there were twenty full page advertisements in one recent issue of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. This would indicate the importance of these new drugs in the treatment of the mentally ill. There can be no doubt that the psychic energizers have a place in the treatment of the depressed patient, but we must keep in mind that there are dangers involved. The depressed patient is potentially suicidal, and it is therefore the doctor's responsibility to recognize this possibility and to direct the patient to the best source of help immediately and with safety. Depressions are very common and are frequently overlooked, but they can be serious and of potentially long duration if not recognized and treated.

Present-day living requires each of us to make adjustments to stress inherent in our environment. Fortunately, most of us can adjust to stress, or experience at most transient periods of anxiety, which can be eliminated by appropriate methods of adjustment. When the stress becomes overwhelming, or our ability to adjust to it is limited in the face of loss or major change, then our psychological reaction, if temporary or prolonged, can be a depression.

There are several kinds of depressive reactions: Exogenous, Reactive, or Psychoneurotic Depres-

sion due to environmental situations or problems; and Endogenous, Psychotic Depression due to internal stress, organic or emotional. A third type may not appear like a depression at all, and would then be described as a Depressive Equivalent.

The Exogenous Depression can be, and frequently is, disguised by many and varied physical complaints. Besides the classical signs of depressed mood, sadness, and increasing loss of interest and activities, the patient may describe in detail annoying symptoms, blaming one or another part of his anatomy. This is not deliberate deception on the part of the patient, as it is most likely unconsciously motivated; it never reaches a delusional state. The condition is most likely to occur in the adult, more frequently in the female, in mid-life, and especially about the menopause. The psychosomatic complaints are many and varied, most frequently manifested as gastrointestinal or as distressing nervous symptoms such as headache, dizziness, unsteadiness, poor concentration, and sleep disturbances. Usually these symptoms are attributed to some recent illness, the most popular at this time being the "virus." This culprit is blamed for almost any complaint of unknown origin. Frequently environmental situations, such as loss or change, can be found by the physician if searched for, evaluated, and possibly altered to the patient's benefit.

The Endogenous Depression is frequently called

continued on next page

TABLE I

Brand Name	(Generic Name)	Manufacturer
Benzedrine	(amphetamine)	SKF Lab.
Catron	(pheniprazine)	Lakeside
Deaner	(deanol)	Riker
Deprol	(benactyzine-meprobamate comb.)	Wallace
Dexedrine	(dextro-amphetamine)	SKF Lab.
Equanil	(meprobamate)	Wyeth
Librium	(methaminodizepoxide)	Roche
Marplan	(isocarboxazid)	Roche
Marsilid	(iproniazid)	Roche
Meratran	(pipradrol)	Merrell
Miltown	(meprobamate)	Wallace
Nardil	(phenelzine)	Warner-Chilcott
Niamid	(nialamide)	Pfizer
Phobex	(benactyzine)	Lloyd, Dabney
Ritalin	(methylphenidate)	Ciba
Suavitil	(benactyzine)	Merck S & D
Tofranil	(imipramine)	Geigy
Monase	(etryptamine acetate)	Upjohn

*Presented at the Annual John F. Kenney Clinic, Pawtucket Memorial Hospital, November 2, 1960.

Psychotic Depression, because the intensity of the depression is more extensive, and because the factors involved are not based on realistic happenings, but rather on intra-psychic factors for which the patient is the only witness. This type of depression is most frequently due to internal stress and strain; it is frequently precipitated without apparent cause and may be cyclic in nature. It is this group of patients that is more prone to suicide attempts. The manic-depressive and involuntal depression belongs in this group. The cause is rarely completely understood by the patient or physician, and may have its roots in the patient's hereditary background as well as conscious or unconscious environmental stresses. These patients can become profoundly depressed in a short period of time, and energetic measures should be instituted at once to prevent self-destruction or other self-inflicted injury.

This illness affects, on the average, an older group and men and women about equally. The patient is slowed up in his thinking and acting. His facies registers his emotional blunting, tears are impossible, and sleep becomes impossible without sedatives. The emotional tone is one of hopelessness and despair. Somatic delusions are frequent and severe. Psychotherapy becomes difficult if not impossible at this point. Electro-convulsive therapy is the treatment of choice. Patients usually respond quickly and are out of danger after a few treatments; this will facilitate psychotherapy.

The third type of depression, Depressive Equivalent Reaction, may not even resemble a depression clinically. In this situation, the patient translates the depression into somatic ills that are markedly exaggerated and can involve any part of the body in any symptom configuration. It may be a chronic upper respiratory complaint, a cardiac neurosis, a cancer phobia, or syphilophobia. These reactions, however, in common with the other two types of depression involve the patient's difficulty in resolving changes or loss. These patients can be most effectively helped by searching for or attempting to determine the issues of change and loss. A case will illustrate this type of depressed reaction.

Case Report

F.D. Age 65. Chief Complaint: Burning in rectum, "bowels go dead raw after a bowel movement. I can't bear it, I moan and walk the floor because of this pain." Patient had a barium enema, gall bladder series, and sigmoidoscopy. She had been seen by a rectal specialist in Boston who injected her hemorrhoids. Tranquilizers and cathartics had been tried to no avail. She was pleasant and co-operative and well oriented, but was complaining bitterly of the rectal symptoms. When asked if there was any recent trouble in her family she stated that her

sister had just died, after one year's illness, of cancer of the breast. She stated: "This year the cancer was about the bowel. I have been very upset as I was like a mother to her. I saw her every day and the abdomen drained pus. I have been sick since April, and every time I saw her I got worse with burning in the rectum." There had been no previous trouble of this nature. She and her husband were well adjusted except that he had "hardening of the arteries," causing her some concern. While this patient did not appear outwardly depressed, the close association and identification with her sister produced the somatization of her depressed feelings. She did not recognize this relationship until three electric convulsive treatments were given along with a psychic energizer. She has had no more somatic complaints regarding the bowel, and she has made a good recovery.

Discussion

There is a place for the anti-depression drugs or psychic energizers in all of these types of depression. Experience, enthusiasm, confidence, and knowledge of these drugs aid in their proper use and avoidance of side reactions. There are fortunately a minimum of complications with the psychic energizers, and they are usually not serious in my experience.

The first group, Exogenous Depression, may be handled best by insight therapy, environmental manipulation with psychic energizers as an aid to mood elevation. The selection of the best-suited drug depends on the age of the patient (the older age group does not respond well), the depth of the depression, and other factors. The amphetamines are still useful (although not as popular as formerly) in the younger group of depressed patients. It has been my practice to use one of the psychic energizers for at least ten days before changing to another drug when the patient is not showing improvement. It has lately been proven unwise to give two or more of these drugs concurrently as side reactions and complications are likely to occur.

In Endogenous Depression these drugs are used in conjunction with electroshock therapy and psychotherapy and are especially useful in the recovering patient after active therapy has been discontinued.

In recent years, a new laboratory test has proven helpful in determining the type of depression, as well as in giving some idea as to its depth and prognosis. Known as the Autonomic Nervous System Reaction Test, or Funkenstein Test, it is simple, consisting of two injections, Adrenalin® and Mecholy1® given intravenously.

The blood pressure is taken each minute for 10-15 minutes, and the results are recorded on a graph as shown in Figure 1:

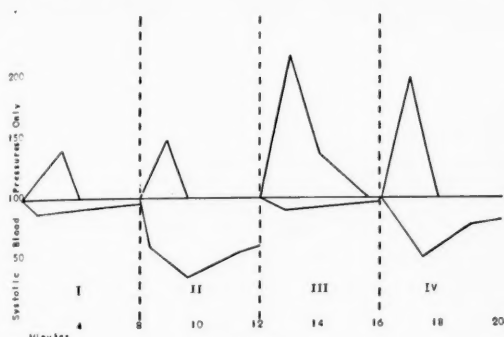


FIGURE 1

- I. Minimal response to adrenalin and mecholyl. Patient is not anxious or depressed.
- II. Minimal response to adrenalin, maximum response to mecholyl. This patient is depressed.
- III. Maximum response to adrenalin, minimum response to mecholyl. This patient is anxious rather than depressed.
- IV. Maximum response to adrenalin and maximum response to mecholyl. This patient is both anxious and depressed, probably a psychoneurotic depression.

The adrenalin raises the blood pressure, which is recorded on a graph at one-minute intervals. The mecholyl lowers the blood pressure in a similar fashion. The depressed patient gives a characteristic curve with each of these injections along with symptoms of dryness, perspiration, crying, fear, and palpitation.

In order to test the new psychic energizers, the Winston Blood Pressure Follower has been developed in England and is now being used in evaluating drug responses. This unique machine for electronic recording of blood pressure in the finger is proving useful in the further study of the depressed patient and his reaction to certain drugs affecting the autonomic nervous system.

ANNUAL GOLF TOURNAMENT

and

DINNER

Wednesday, June 14, 1961

Providence Medical Association

MEDICINE IN AFRICA

A correspondent of ours, working temporarily as visiting surgeon in Ghana, recently described some of his experiences in a letter. We feel that these timely observations will be of interest to our readers:

"My hospital is huge (four big five story buildings, and several smaller auxiliary buildings and pavilions), and is a fine example of modern architecture, with modern costly equipment and medieval medicine. Air-conditioned operating theaters are a travesty on aseptic conditions, with surgical treatment standing only one grade above 'voodoo' medicine. This is a place of contrasts. Our anaesthetist performs intubation very nicely and uses modern equipment, but doesn't take the blood pressure and ignores the pulse, respiration, and general condition of the patient.

"My ward nurses are doing all intravenouses alone without help, but don't mind putting a finger into a bottle with sterile solution. Gastric suction tubes are sterilized before use, but not bedpans of typhoid patients after use. Dissecting scissors are used for cutting plaster of Paris, and not one Steinman pin has a sharp point. The nurse wears a mask for changing dressings but puts her hands into every infected wound. The brushes for scrubbing are not sterilized before use, and the 'sterile' drape sheet covering the patient is full of holes. But everything is made from nice modern green linen.

"The greatest oddity, which I discovered only by chance, is a 'dressing unit' which goes from patient to patient every day and changes dressings — and also removes drains without bothering to check with the surgeon.

"My colleagues are a mixed lot of Hindu, Pakistani, some Lebanese, and a few Italian doctors. Here and there there are Ghanaian doctors too; administrators and senior medical officers are all Ghanians, and good ones too. My chief assistant is an Italian who sings nicely, but as a surgeon is no great help, at least for the moment. But it is pleasant to have someone with whom to practice my Italian.

"When I see how much is to be done, I sometimes doubt if it can be done at all. In the meantime I have performed fifty-four operations (in a matter of a very brief period), most of them major ones under most difficult conditions. But I have made friends with the nursing staff and the doctors, and that is of great help. I forgot to mention that I have a mere 160 surgical beds under my charge!"

ISRAEL DIARY

SEEBERT J. GOLDOWSKY, M.D.

The Author. Seebert J. Goldowsky, M.D., of Providence, Rhode Island. Chief of Surgery, Miriam Hospital; Director, Peripheral Vascular Clinic, Rhode Island Hospital; Editor-in-Chief, Rhode Island Medical Journal.

IN DECEMBER, 1959, and January, 1960, the writer, together with Doctors Irving A. Beck and A. A. Savastano, visited the state of Israel in a hospital to hospital medical exchange program between Miriam Hospital in Providence, Rhode Island, and Poriah Government Hospital in Tiberias, Israel, sponsored by the nonprofit, nonsectarian Unitarian Service Committee. The exchange was limited to the specialties of general surgery, internal medicine and orthopedics. Doctor Alex M. Burgess, a member of the Medical Advisory Committee of the U.S.C., was sent to Israel by Miriam Hospital to participate in the program. During the past year Doctors Roman R. Pe'er, Eldad Askireli, and Chaim Goldman have since been in the United States, spending one month each in Miriam Hospital, and additional time visiting other medical centers. We were all greatly impressed by the tremendous building activity in the country, by the spirit and charm of the people, and particularly of our hosts, and by the competence of the physicians and the high quality of medical care. The following are excerpts from the writer's personal diary of the trip.

* * *

Friday, December 18, 1959. Left home at 9:00 A.M. Arrived at Idlewild 11:15 A.M. Checked in T.W.A. Had sumptuous lunch and cocktails at Golden Door in magnificent arrival building of international airport.

Plane took off one hour late in rain at 6:00 P.M. Delay due to heavy GI mail load and heavy traffic. Made up time rapidly with 120 mph tail wind. At 7:40 P.M. Captain told us it was 1:40 A.M. Paris time, and it would not be long before dawn would break (at 19,000 feet!). Tourist Class not bad, except for limited leg space. Food decent—somewhat gemütlich. It is now 2:30 A.M. Paris time! and everyone is wide awake. How much sleep will we get?

Sunday, 2:00 A.M., December 20. Arrived in Paris about one-half hour ahead of schedule despite late start due to 140 mph jet-stream tail winds, around 10 A.M. Spent some 60 minutes in Transit Area (sort of under seal) where the usual tourist trap things are for sale, including magnums of Courvoisier. Bought copy of Paris edition of *HERALD TRIBUNE*, which had headlines about Eisenhower arriving in Paris today.

Crossed Alps and saw Mt. Blanc (3,500 feet below our 19,000 ft. cruising altitude) and the Matterhorn. All snow-covered—magnificent scenery. Tried to get photos from the plane, but may be too much whiteness. (They came out all right.) Also spent time at Rome and Athens airports, a good deal like seeing Europe from subway. All have same tourist sucker bait. No European airports have activity comparable to that in any large American city. We are told Europeans still not air conscious. Our Super-Connie G (Super Constellation), about one year old, is already obsolescent. Saw several large jets and they are magnificent sight. Arrived Tel Aviv (Lydda Airport) 11:30 P.M. Met by Dr. Chaim Goldman (orthoped) and his lovely wife at the airport. Attempt made to expedite our passage through customs and immigration, but this didn't seem to save much time. Spending night at Yarden (Hebrew for Jordan) Hotel in Tel Aviv. Had orange juice before retiring—others with vodka added, but not me (OJ is bottled). Never heard of screw driver here. Room clean, but a little odd. Shower in center of bathroom with duck-board, but no stall. Toilet communal. And so to bed.

Sunday, December 20, 11:00 P.M. Slept well last night. Woke up spontaneously at 6:45 A.M. and turned off alarm. All went to dining room together for breakfast about 9:00 A.M. Had OJ, coffee, bread, butter, cheeses, and marmalade. Also had tomato and black olives—unusual for breakfast. Meir (first name only is known to us), our driver from Health Ministry, appeared at 9:30 on time. Drives Ford station wagon donated by Hadassah of Canada. After stowing bags in station wagon, we started on trip to Tiberias. Got first daylight view of Mediterranean at Tel Aviv—surf heavy and gray, in beginning rain. Began to rain in

earnest and lasted most of day. Tel Aviv is impressive city of concrete, brick, and stucco. Has look of many tropical and semitropical cities with overtones of Florida. City is very cosmopolitan and really jumping. Considerable traffic. Trip to Tiberias took about two hours. Passed several Kibbutzim (communal farms) and much valuable farm land—mostly irrigated—women working in fields. Little Arab donkeys (probably forebears of our Mexican burros) common. Many black goats grazing on rocky hillsides. Desert hills with rocky outcroppings and sparse vegetation, including cactus, reminiscent of Arizona. Arab villages interesting—some of their huts look like adobes further enhancing the illusion. Passed 4 Arab boys selling bouquets of tiny fragrant flowers. They want $\frac{1}{2}$ Israeli £ (25 cents) for 4 bouquets. It was a sight to see Meir bargain with them. Ended by paying 3 shillings (about $7\frac{1}{2}$ ¢ U.S.) and they shouted curses at us to fulfill the illusion. Passed through the lush Jezreel Valley which is the granary of Israel. Looked like our western plains with mountains in distance. Arrived Tiberias at 1:30 P.M. During descent to town passed sea-level marker. Town is over 600 feet below sea level. Reservations at Chen Hotel, a small neat pension. Beautiful roses in room from staff of hospital. Have nice room, but shower again is in middle of bathroom—no protection for privy from spray. Had lunch of a baked pudding of meat and eggplant, soup, and mutton. Ended up with tea served in glasses. Then taken to Poriah Hospital on beautiful hilltop. Hospital of pavilion or cottage type—prefabricated in Finland for Russian Army and bought as surplus. It is now about 4 years' old and still being added to. Not sumptuous but neat and adequate, surrounded by pretty flowers and shrubs. Addressed informally by Dr. Avram Friedman, pediatrician and superintendent. Told of setup of government hospitals and Kupath Cholim (Workers' Sick Fund). Has services in medicine, surgery, orthopedics, pediatrics, eye, gynecology and obstetrics, X rays, and pathology. Standard service consists of chief, resident, assistant resident, and intern, all full-time. Intern in last year of 7-year course of medical training—follows 6 years of high school, equivalent to 2 years of college. Then had delightful tea at hospital with Drs. Friedman, Eldad Askireli (medicine), Roman Pe'er (surgery and my opposite number), and Ben Mosche (eye), also Dr. Alex M. Burgess (who had preceded us there), and all our wives. Then returned to our hotel and informed our proprietress that we could eat no more food, which disappointed her as we were expected for supper. Spent evening walking the streets,—charming town. A pretty park nearby with Bougainvilleas and other exotic vegetation. Kids playing in park in semi-darkness. Could see new town on hillside and was a fairyland of

lights. Ran into Alex and Abby Burgess, he in jaunty beret. Now 12 midnight and to bed. Will start participating in professional activities in earnest tomorrow.

Monday, December 21, midnight. Took off with Pe'er at 8:30 A.M. for Poriah Hospital. Spent morning making surgical rounds. Operating days are Tuesdays, Thursdays, and Sundays. Discussed at length many problems. Pe'er described frustrations of practicing surgery in Israel and especially at Poriah. Government surgeons can do private practice in larger cities in private hospitals, but there is none in Tiberias. Thought I would duck varicose veins, but they were very much interested in my views—and my first case tomorrow will be a stripping! Pe'er is charming fellow and most anxious to show me around, sightseeing as well as medically. Met Mesdames Friedman, Pe'er, Askireli, Benmosche, and Goldman. All exceedingly charming and pretty, and some even beautiful. After relaxing briefly went to Tiberias' one night club, The "Minus 206," referring to meters below sea level, a new club with intimate atmosphere with fisherman's motif. Left about 11:15 P.M.—but instead of going to bed, took a ride along lake to investigate some military searchlights and flares—probably have to do with protecting Israeli fishing in lake from Syrians. Arrived at the hotel about 11:40 and so to bed.

Tuesday - Wednesday, 12:30 A.M., December 22-23. Started day leaving Hotel Chen with Pe'er at 8:00 A.M. Passed up hors d'oeuvres for breakfast, but did take a soft boiled egg. Was raining when we left hotel. (This is the beginning of the rainy season.) Stopped to take picture of the valley. Scenery is really magnificent. Did bilateral vein stripping.

Met Dr. Simon Btesh (Director of Ministry of Health) at lunch—came up from Jerusalem to meet us. Had weekly conference at 2:00 P.M. After greetings from both sides, Dr. Burgess gave talk on O_2 administration and Irving Beck on Graves's disease from dexedrine for weight reduction. Expected to spend evening in hotel reading and resting—but it was not to be. Pe'er has made tentative arrangements for rooms at Galei Kinneret, better hotel, for after January 3. Perhaps will have toilet seat that stays up and bath—or shower not in middle of bathroom.

Wednesday, December 23 — 3:45 P.M. While waiting for Pe'er this A.M. took pictures of school diagonally across street from hotel. Kids lining up to enter school. When they saw me with camera, they begged to be in picture. So snapped 3 or 4 of groups of kids—excellent models. We could not speak, but there seemed to be complete understand-

continued on next page

ing. Left for hospital at 8:30 A.M. Made careful rounds, taking all morning. Later saw cases in OPD clinic. During noon hour took some pictures, including an interesting elderly Druse about to be discharged from hospital. Attended X-ray conference for a while, but left early because it was monopolized by medical service. Have seen a couple of echinococcus cyst cases, but not at surgery. They plan to have me do a thyroid in A.M. and assist Mirvis (Pe'er's assistant, and an Argentine) with a bilateral recurrent varicose veins. Another evening planned for us tonight by administrative superintendent of hospital—an oriental dinner in downtown Tiberias.

Thursday, December 24, 9:00 A.M. Last evening were taken for dinner to nice restaurant on lake-front in old Arab quarter—served good oriental food—houmuss, musht (a fish found only in Lake Tiberias and Lake Victoria), shashlick, and fresh whole fruit with Turkish coffee (which I didn't drink). Party was given by Dr. Btsh, and whole staff and wives were present, including nursing supervisor. Party broke up at 10:00 P.M. without speeches. Nice weather this A.M.—also lovely yesterday. Incidentally thyroid was canceled because Irving Beck felt gland was too soft and needed more iodine. Endemic goitrous area found in mountains of N.E. part of country.

Thursday, December 24, 4:30 P.M. Left hotel 10:30 A.M. for Nazareth in station wagon. Stopped and visited health center and clinic for northern area. Then visited the usual tourist spots in Nazareth, including Church of St. Joseph, the Church of the Annunciation and the Synagogue Church. Walked through the center of the old town and was frustrated no end, because I had used up film in camera. Want to get back there badly. Had dinner with whole crowd. Dinner at TB hospital (government) at top of hill overlooking Nazareth—has 60 patients, all Arab. Town all Arab except government administrators—population 25,000 and 50-50 Christian, according to our guide. Meal most sumptuous of many courses, including many Arab dishes which were delicious, but shall remain nameless, and main course of goose. Delicious rich chocolate cake with whipped cream for dessert (Btsh had two portions). All hands continue to knock themselves out to please us. On way back snapped pictures of the historic well at Cana (where according to tradition Jesus performed the miracle of the wine), and of the Horns of Hittim, where was fought the decisive battle of the Crusades in 1187—where the Moslems under Saladin defeated the Christians.

Friday, December 25, 5:30 P.M. Last night left hotel in caravan with all doctors and wives for Nazareth—party there arranged by local Rotary of

which Friedman is a member. Parked in narrow street in old quarter and were taken to Y.M.C.A. upstairs in old Arab building. First sat around at tables and drank a sweet soda pop—later taken to Arab coffee room where we sat on old rugs and were served aromatic Turkish coffee by an ersatz but amiable Bedouin. Meantime an American style jazz band with a beatnick saxophone player played real cool. Left crowded fire trap, and then walked to gate of St. Joseph's Church to attend midnight Christmas Mass. Btsh had obtained 5 tickets to mass for about 20 people. Arab populace milling about gate and kept out by police, because they had no tickets—shouted unpleasant epithets. Meantime kids climbed over wall as at football game. Finally, they decided to let 5 of us in—by some prestidigitator ticket was passed out thru gate several times until all were in—crowd still milling about outside. Inside church Christmas Mass had started—bishop at mass for first time in many years. One by one we left church about 12:30 A.M. Judy Pe'er became ill from strong Arab odors in church. Music nevertheless beautiful.

Left Nazareth about 1:00 A.M. Rode back with Friedman—had flat tire in middle of desert. To bed at 2:30 A.M. and read till 3:00 A.M.

Up at 7:00 A.M. and left for hospital with Pe'er at 8:15 A.M. Routine nonoperative day. Left hospital 2:00 P.M.—pre-Sabbath. Pe'er took me to hotel through different route—saw Jordan fisheries, Jordan river and beautiful views of Lake. Also Byzantine baths and church. Roman baths at hot springs, and tomb of Rabbi Meir, as well as old ramparts built in 1740.

Mrs. Goldowsky spent P.M. attending Chanukah party at school where Naomi Goldman (Mrs. Chaim) teaches.

Saturday, December 26, 6:00 P.M. Arrived back short time ago from all day trip to Northern Galilee. Had 7-passenger touring car, 1954 DeSoto—formerly N.Y. City taxicab. Driver was Itzhaak (Isaac)—husky Sabra (native Israeli) who is former policeman, veteran of the War of Liberation, and part owner of the taxi company. Intelligent and speaks good English. Stopped first at Tabgha (from Heptapagon—7 springs). Here is Church of the Multiplication, where tradition has it Jesus fed multitudes on 5 loaves of bread and 2 fishes. Spoke German with bearded Benedictine monk—are caretakers of Byzantine mosaic floors of 4th century—must have been of great beauty—colors still preserved. Then to Capernaum (Latin corruption of Kefar Nahum) restored Graeco-Roman synagogue where Jesus reputedly preached (it was built after his death)—many stone artifacts preserved and remnants of the foundation of Peter's home who was a fisherman. Guide was an ascetic Italian Fran-

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TRAGEDY STRIKES CLOSE AT HAND

SEVERAL RECENT AIR CRASHES have brought very close to us in New England the chilling reality of disaster. The closest geographically was the crash into Boston Harbor of the Eastern Airlines *Electra* near Logan International Airport in East Boston. Of more recent occurrence was the collision over neighboring New York of the United Air Lines D.C. 8 and the T.W.A. *Constellation*. Finally, and virtually yesterday was the loss near Brussels of the Sabena Boeing 707. This latest tragedy resulted in the annihilation of the American figure-skating team, several coaches, and members of the skaters' families; and despite its distant locale, the impact of the losses struck very close to home. Dudley Richards, American pairs champion, whose home town was Barrington, Rhode Island, had recently been a resident of Boston. Maribel Vinson Owen, herself American figure-skating champion nine times and her two lovely daughters, sixteen-year-old Laurence and Maribel, American and North American singles champion and American female pairs champion respectively, all of Winchester, Massachusetts, were lost in the holocaust, wiping out this vital family of mother and two daughters. Poignant as was the loss of the vibrant young people, the death of Mrs. Owen amounted virtually to the liquidation of a national resource. Tenley Albright, former Olympic champion, a fourth-year student at Harvard Medical School, and daughter of Boston Surgeon Doctor Hollis Albright, had also been a protégé of Mrs. Owen. The many other passengers aboard cannot go unmentioned.

We have purposely specified air lines and equipment to show that the most prestigious of carriers and the finest and most advanced planes have been involved. In the past year some 700 people have lost their lives in passenger plane accidents.

There is no question as to the conscientiousness of all concerned with air safety. A recent *CBS Reports* on the Boston *Electra* crash, a similar study some months ago in *THE NEW YORKER MAGAZINE* regarding an earlier American Airlines crash in New York, and press coverage in general have made this abundantly plain. Federal authorities, the carriers, the Air Lines Pilots Association, the builders of the planes, and the manufacturers of engines,

equipment, and accessories are all deeply anxious to solve the problem. The care with which each mishap, large or small, is reconstructed down to the most minute detail is really a saga of thoroughness. Sooner or later the cause of every air accident, even in the total absence of survivors, is established beyond reasonable doubt. Changes in regulations and modification of equipment suggested by these investigations are likely to follow. Yet the accidents continue.

Even though air travel is undoubtedly one of the safest activities in which man engages, the apparent likelihood of total destruction when failure occurs gives such failure a peculiarly chilling aspect. As laymen in these extremely complex and technical matters, we cannot hope to offer substantially constructive suggestions. Yet as doctors we cannot stand aside in the face of such appalling loss of life. We suggest, perhaps timidly, that a new approach to the problem of air safety be sought. Without taking a horse and buggy posture, it may be seriously questioned whether further increases in the speed of commercial aircraft, with the resulting geometric multiplication of problems, can really be justified; and if it can, whether a limit must not eventually be established. May there not be a limit to the number of flights allowable in any given time and area? We further wonder whether, if electronic traffic control, three-dimensional radar, and enlarged and better airports are necessary, they should not be procured on a crash basis without regard to expense. Although budgetary matters cannot be ignored, we feel they have little substantial validity where human lives may be unnecessarily sacrificed. If techniques and equipment are still under investigation, money for the necessary research should be spent without hesitation. If new seating, seat belts, and other accessories are shown to be advisable, modifications should not await the obsolescence of present equipment. We feel that many of these measures are legitimate areas for federal spending when it may spare the air lines at times prohibitive costs. These are some of our thoughts in a problem about which we must not assume a fatalistic outlook.

continued on next page

THE CHARLES VALUE CHAPIN FELLOWSHIP

THIS FELLOWSHIP, established in the will of the late Anna Augusta Chapin in memory of her distinguished husband, and offered for the first time in 1948, is again available for a suitable candidate. The funds are set aside in a trust vehicle with the following interesting provisions:

"In Trust, as the *Charles V. Chapin Fellowship for Research in Contagious Diseases*, for the following purposes: To pay the net income periodically to such person as may be designated from time to time by the governing board of the Charles V. Chapin Hospital to carry on research work in the study of contagious diseases. This gift is made upon the express condition that the Charles V. Chapin Hospital at its own expense shall provide room, board, and suitable equipment at the hospital for the person so designated, and that the person so designated, upon accepting such appointment, shall devote his entire time, free from routine work at the hospital, to said research work..."

During the past thirteen years the fellowship has been awarded seven times, three times to graduate students at Providence College, once each to grad-

uate students at Brown, University of Rhode Island, and University of Connecticut, and once to a resident in pediatrics at Chapin Hospital. The range of subjects has been wide: on a complement fixation test, chick embryocultures in the rapid identification of mycobacterium tuberculosis, experimental grouping and typing of hemolytic streptococci, statistical study of a poliomyelitis epidemic, examination of Vi-antigen by a direct hemagglutination test, poliomyelitis statistics, measles encephalitis, and hemophilus influenzae meningitis.

Recipients of the fellowship need not be doctors of medicine but should generally be equipped to undertake investigation at the graduate level. This is an excellent and rewarding opportunity to perform a research study under comfortable and congenial auspices. We suggest that our readers call to the attention of likely candidates the availability of this generous fund. Application forms may be obtained from the administrative offices at Charles V. Chapin Hospital.

CERTIFIED MILK IN PROVIDENCE

CERTIFIED MILK had its origin in the medical profession. In 1893 Doctor Henry L. Coit, of Newark, New Jersey, formulated a plan by means of which he and his colleagues might obtain for infant feeding a supply of clean, safe, pure, nutritious milk, the best which the knowledge of the time could produce. In accordance with this plan the Medical Society of Essex County, New Jersey, appointed a Medical Milk Commission which entered into contract with a dairyman (Stephen Francisco of Caldwell, New Jersey) willing and able to produce this milk which was to be "certified" by the Commission and labeled with the copyrighted name "Certified Milk."

Other medical societies soon followed the example of the Essex County Medical Society, and by 1901 there were fifty-eight local Medical Milk Commissions functioning in different parts of the country, each formulating its own methods and standards but showing a remarkable similarity in fundamental requirements.

In 1907 most of these local commissions were organized into the American Association of Medical Milk Commissions, Inc., which had for its objects the adoption of uniform methods and standards for the production of Certi-Milk, and the extension of the movement throughout the country. Four standing committees were appointed: Medical Examination of Employees, Chemical Standards, Bacterio-

logical Standards, and Veterinary Inspections and Protection Against Tuberculosis. These committees submitted reports which were adopted by the association and in 1909 were published in the form of a *Manual of the Working Methods and Standards for the Use of the Medical Milk Commission*.

In 1925, at a meeting of the Providence Medical Association held on November 2, a motion by Doctor Henry E. Utter was adopted that provided for the appointment by the president of a committee of three to take up the question of the duties and personnel of a Medical Milk Commission. A month later Doctor Albert Miller, then president, named the first Medical Milk Commission of the Association which consisted of the following physicians: William P. Buffum, chairman, William H. Jordan, Maurice Adelman, A. Roland Newsam, and Reuben C. Bates. Their duties were set forth to receive petitions to produce Certified Milk, to designate a sanitary inspector, a veterinarian to inspect the cows, a physician to examine the employees of the farm, and an analyst to make bacteria counts, and to check the chemical contents of elements of the milk.

The first report of this Milk Commission of the Association was published in the February, 1930, issue of the RHODE ISLAND MEDICAL JOURNAL, and it noted that the bacterial and chemical examinations were made in the laboratories of Brown University under the supervision of Pro-

fessor Frederick P. Gorham. During the subsequent thirty years the following farms have produced and sold Certified Milk under the supervision of the Commission of the local medical Association: Alta Crest Farm, Ferrycliffe Farm, Cocumscussoc Farm, Fair Oaks Farm, and Brightridge Dairy.

Currently the following farms are selling Certified Milk in this state: Hampshire Hills, Hillside, and H. P. Hood & Sons. The members of the Medical Milk Commission for 1961 are: Doctors John T. Barrett, chairman, Bertram H. Buxton, Jr., Harold G. Calder, John E. Farley, John P. Grady, Maurice N. Kay, Henry E. Utter, and Reuben C. Bates, secretary-treasurer.

Since 1901 the *Methods and Standards* have been revised from year to year at the annual conventions of the American Association of Medical Milk Commissions in accordance with advancing scientific knowledge, and Certified Milk has retained a position of leadership in the dairy industry which has exerted an influence far greater than volume of its sales may indicate. It is the object of this Association to retain this leadership, and it is the belief of its members that regardless of what subsequent treatment may be given to milk, improvements of the product, as to safety and nutritional factors, can best be accomplished at the source of production. It is the belief of the Association that Certified Milk is the highest grade of milk obtainable. Recognition of the standing of the Association is to be found in the laws of many states and municipalities which require that Certified Milk shall be produced in accordance with the *Methods and Standards* as currently published by the American Association of Medical Milk Commissions (or words to that effect) and by a similar definition which occurs in the United States Public Service Milk Ordinance.

The Special Certified Milks are classified as follows:

1. *Certified Vitamin D Milk.* Vitamin D Certified Milk is defined as whole Certified Milk rendered antirachitic by the addition of a concentrate, and it shall be of sufficient vitamin D potency to

show by biological assay a content of at least 400 U.S.P. units per quart. It is suggested that each Medical Milk Commission shall make or have made such tests as will insure the maintenance at all times of the potency required for Vitamin D Certified Milk produced under its certification, i.e., at least two biological assays per year, in December or January, and the other six months later. Producers of Vitamin D Certified Milk must keep complete records covering the production of this product on file at the farm, and with the Milk Commission. Any concentrate of Vitamin D used for the production of Vitamin D Certified Milk shall be a brand declared suitable for such purposes by local, state or municipal health agencies.

2. *Certified Milk-Homogenized.* Certified Milk-Homogenized may be produced and labeled with the approval of the Medical Milk Commission and the Committee on Methods and Standards of the American Association of Medical Milk Commissions. It also may be labeled "Certified Milk-homogenized, soft curd" provided it maintains a curd tension below 15 grams.

3. *Fat-free (Skim) Milk with Vitamins A and D Added.* Certified Fat-free (Skim) Milk with vitamins A and D added may be produced and labeled with the approval of the Medical Milk Commission and the Committee on Methods and Standards of the A.A.M.M.C. The vitamin D content of this milk shall conform with the specifications of Title 2, Sec. 5a (see preceding paragraph). The vitamin A content shall be stated on the label of the cap of each bottle, as agreed upon by the local Medical Milk Commissions. The vitamin concentrates used shall be a brand declared suitable for such purposes by local, state or municipal health agencies.

4. *Certified Low Sodium Milk.* A milk which is produced and handled in accordance with these *Methods and Standards* and treated so that its sodium content is reduced to less than 50 milligrams of sodium per quart.

REUBEN C. BATES, M.D.



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ISRAEL DIARY

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ciscan—asked us to pray for him! Passed Mt. of the Beatitudes where Jesus preached the Sermon on the Mount.

Visited partially excavated site of Hatsor (Biblical Hazor)—present 19 centuries before Christ and present when Israelis conquered country 13th century B.C. Took first pictures of Mt. Hermon—snow-capped and some 10,000 feet high—well inside Syria. Whole trip was along Jordan-Hula Valley, and Syrian border was always in view to the east of the valley. Lake Hula, smallest of 3 seas of Jordan rift now drained by impressive engineering feat—river passes thru valley as 2 drainage canals—land now rich agricultural area with fish ponds where fish are propagated and farmed like poultry. Visited Metulla, most northerly village in Israel—surrounded on 3 sides by Lebanese border—saw border marker on road running into the Lebanon—across border could see Arabs tilling soil with oxen—contrast striking. Then made ascent into Safad (medieval Hebrew city)—a road of tremendous scenery to top of Mt. Canaan just about 3,000 feet above sea level. Itzhaak explained to us the strategy of the battle for Safad and the miracle of the retreat of the Arabs from the citadel—terrified because of onset of rain during bombing—thought it was atom bomb.

Sunday, December 27, 11:30 P.M. (Saturday is Sabbath, Sunday a workday). Relatively quiet day. Pe'er delayed a little this A.M.—left for hospital at 8:30. Went straight to operating room. Helped Pe'er do routine good-sized umbilical hernia—did good Mayo repair—seems to be a very common finding hereabouts. Later explored interesting duodenal obstruction—proved to be carcinoma of pancreas with widespread metastasis and local extension. Saw in consultation pretty little 10-year-old girl with hypertrophy of one leg due to arterio-venous communication—diffuse hemangioma, surface heat, and dilated veins. Will accept on surgical service for study. Real surf on Lake (Sea of Galilee)—amazing when one considers it is only 5 miles wide—but very strong wind.

Went to concert in evening. Very pretty young girl—played well with considerable technical proficiency, but little subtlety of shading—also piano out of tune for which artist apologized—also we sat too near piano. Program printed in Hebrew, but conventional—César Franck, Ravel, Chopin, and a local composer.

Monday, December 28, 10:30 P.M. Left for hospital with Pe'er at 8:00 A.M. In operating room explored oriental type Jewish lady for ulcer of duodenum—found ulcer healed, but took out gall bladder for stones and repaired umbilical hernia.

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Umbilical hernia in females exceedingly common hereabout. Will probably do femoral arteriogram on little girl previously mentioned. Weather beautiful today. Sun and shadow effects on hills produce infinite color variations reminiscent of Grand Canyon.

This evening went to charming little art gallery with group.

Tuesday, December 29, 7:00 P.M. Day in hospital rather routine, and somewhat on dull side—much motion, but not much accomplished. Had case of cardiac arrest in GYN laparotomy—Mirvis in next room doing circumcision was called—opened chest and did massage with restoration of function, after 2 or 3 compressions—patient viable, although outcome including cerebral status not determined—everyone very proud of Mirvis—his stock went up sensibly. Many circumcisions done on Jewish boys—with consent of Rabbinate—not done behind Iron Curtain—very little phimosis—but done because of ribbing by schoolmates—and of course for health reasons. Gave lecture this P.M. on pre- and post-operative care—elementary, but gave them a general picture of our management—also the gospel on special surgical care units. Irving Beck spoke briefly on simplified management of diabetics. Sav. (Dr. A. A. Savastano) was to talk on cortisone R of orthopedic conditions, but insufficient time.

Thursday, December 31, 8:20 P.M. Day at hospital yesterday routine—no surgery. Woman who had cardiac massage still comatose and having convulsions. Biopsy from man with duodenal obstruction was pancreatic carcinoma. At lunch at hospital met an estimable lady from Jerusalem who is a "social worker"—sort of "lady visitor"—Mrs. Epstein—spoke with a pure native Providence accent—born and brought up in Providence—lived on Olney Street—went to Hope High and got R.N. from MGH. Married dentist—has lived in Jerusalem past 41 years, with only one trip back to Providence, I think over 20 years ago! In afternoon I took ride to nearby kibbutz—took some impressive panoramic shots and pictures of kids—also greenery—brilliant under irrigation. Returned to hotel about 4:45 P.M.

8:30 P.M. About 6:00 P.M. went to Chanukah cocktail party given by mayor of Tiberias for U.N. officers. Mayor diminutive—looked like poor man's Ben Gurion. Met some fine looking New Zealand and Danish officers—and Israeli as well. Canadian Lt. Col. from Ottawa and Major from London, Ontario—both glad to hear stateside voices. U.N. doing very fine job, although it is not politically popular here to say so. At breakfast met 3 Texans—one a minister (D.D.) and another a lawyer, passing through on unstated business—have just been

to Jordan from one end to other—say crossing border like passing into new world 100 years more advanced.

Spent routine day in hospital. Roman showed me his method of doing pilonidal—technique he picked up in American literature, triangular excision and rotation of flaps—looks good. I did fairly satisfactory femoral arteriogram on little girl with a-v aneurysm—no shunt seen—will see dry films later. Cardiac massage patient decerebrate.

Local Hebrew press picked up story of cardiac massage—said it was first in Israel which is doubtful—and that 3 visiting U.S. doctors very much impressed!—Pe'er says he hopes they don't send someone around to interview patient.

Friday, January 1, 9:00 A.M. (1960). The new year has arrived at last in the land where began the Christian era! Called for by Pe'ers to be taken to St. Sylvester Day (New Year's Eve) party about 10:00 P.M. Lovely party. Galei Kinneret (the leading hotel) served us a delicious meal and then at midnight a sumptuous buffet with more foods than I could sample—ended with fruit compote and the doughnut-like cake which seems to be a local delicacy. Arrived home from party about 2:30 A.M.

10:00 A.M. P.S. Music last night provided by single pianist who doubled in piano-accordion—yet quite satisfactory for dancing—have danced more in past 10 days than past 10 years. After serving food, chef joined briefly in dancing, and cute waitress and kitchen boy did creditable rock and roll—then another (from Germany) played briefly but brilliantly on accordion, largely Russian tunes.

Have just returned from solitary stroll along promenade walk, scenery positively alluring with mirror-like lake far below and mountains in distance in sun and shade, topped by brilliant cloud effects, and palms and Bougainvillea in foreground, sparkling in sun and fresh from recent rain.

Saturday, January 2, 9:30 A.M. At tea time yesterday went to Goldmans for party celebrating last day of Chanukah. Kids put on entertainment of their own selection under tutelage of Naomi Goldman, who displayed her best schoolmarm demeanor. Everyone entranced by charm, good looks, and good behavior of children.

5:30 P.M. Left with caravan of Pe'ers, Goldmans, Askirelis, Ben Moshes, and Friedmans in pouring rain. All children in party. Stopped at hot springs and Byzantine baths as girls had not yet seen them. Then visited beautiful war memorial at Tsemah on south shore of Lake in inspiring setting at lakeside. Went on to wealthy and successful kibbutz of Afikim where we first dipped feet in sloppy bath as prophylaxis against hoof and mouth disease. Met Dr. Stern who is physician for the kibbutz. Took

long walk with him and children and adults in tow to see housing, delightful dispensary and sick bay with 30 beds, nursery, playground and swimming pool, athletic gymnasium, heavy motor equipment, and amazing plywood factory which converts huge timbers from French West Africa into plywood, some 60% of which is sold to Britain. Had lunch in large communal dining room. Although fare was plentiful and wholesome and surroundings were cleanly, the service was somewhat reminiscent of the wholesale purveying at Rocky Point shore dinner hall. Huge room, light and airy, but would soon find lack of privacy intolerable. Distressed by incessant rain and mud for which we were not properly clothed. Impressed greatly by lack of internal transportation; access chiefly by walks of varying degree of adequacy from pure mud to flagstone to concrete. Air-raid shelters scattered strategically throughout area. 1,250 souls live in settlement and 500 more, mainly from Tiberias, employed in various activities.

After lunch visited Kevutsa Degania Alef, the first of all communal settlements founded in 1909, south of the lake in the Jordan Valley. Despite rain beauty of landscaping was everywhere in evidence. Struck by huge poinsettia in bloom. Vegetation largely tropical in character and disposed with considerable taste—its maturity is in contrast to much recent planting elsewhere. Visited their beautiful cultural center of chaste modern architecture—contains fine natural history library, auditorium, natural history specimens displayed with professional excellence, and the astronomical observatory. Our host was named Palmoni, a cultured gentleman, author of several books and an entomologist of note. Center called Beth Gordon in honor of its Hebrew philosopher-founder, reminiscent of Thoreau.

Sunday, January 3, 7:45 P.M. Left for hospital this A.M. about 9:00 A.M. after cashing more traveler's checks at bank and making final settlement with Mrs. Kugel, our shrewd and thrifty concierge. She seemed slightly sad at our leaving, and had somehow found out through her private G2 that we were heading for Galei Kinneret. After spending A.M. at hospital doing not very much (thyroid canceled because of intramural rhubarb over who should run blood bank and hence no blood available) and then met party at hot baths for formal tour. Are run by Mr. and Mrs. Meiri—she sister of Dr. Liesl Mayer, pathologist at State Hospital at Howard. Baths are really sumptuous, very well run, sanitary and beautifully housed in modern structure, decorated with many shades of fine quality Italian marble. Had pleasant lunch at baths as guests of Meirs. (The hot springs have been used since Roman times.) Then went on to Galei Kinneret.

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Tuesday, January 5, 8:30 A.M. Have already had breakfast, sitting in full view of lake with brilliant early morning sunshine. Lake rough from strong wind with constant muffled roar of small breakers—rather amazing when one considers modest width of this lake. Am up early as I think we shall really operate with 2 thyroids booked and bacteriologist placated anent blood bank. At 11:00 A.M. we are due to have official press conference.

Wednesday, January 6, 3:00 P.M. Went to hospital early yesterday with Pe'er. Did a very large toxic goiter in A.M., which went quite smoothly, although all surgery is made difficult by unaccustomed instruments. Because of OR, missed press conference held at 11:00 A.M., in which the standard questions were asked: how did we find things in Israel? etc. Followed with a tremendous modular goiter in a 30-year-old girl who had had previous operation in Morocco. Started off by dividing right carotid high up, which I eventually was able to repair. But apparently got one recurrent laryngeal and had bleeding from wound. Reopened and packed wound in OR, and Pe'er did tracheostomy at my request. Patient seemed OK as we left hospital at 7:00 P.M., but have not heard present state—she had not responded as of the time we left. Pe'er gave me day off today. Took boat trip from our hotel jetty to Kibbutz at Ein Gev, across lake. Ride very beautiful and interesting, and town of Tiberias from lake is imposing. Ein Gev founded in 30's and is one of the more prosperous ones in a beautiful setting on the lake, but close to the Syrian border. Main industries are dates, bananas, sardine fishing and canning, and tourism. Sardines are attracted to nets by bright lights and have to be picked out by hand—very colorful. St. Peter, Christ's apostle, fished these waters. Large auditorium houses 2,500 and has been host to Isaac Stern, Marian Anderson, Leonard Bernstein, and Danny Kaye—has music festival at Passover. All farm areas in serious difficulty with hoof and mouth disease. Have to dip soles in solution before entering and certain areas are quarantined against visitors. Ride over was in brilliantly lovely weather, but began to cloud over on way back and rained sharply just after we returned to hotel. Boat well-maintained passenger launch, owned 50-50 by Ein Gev and Israeli official tourist agency. Captain of ship, intelligent young Israeli, is member of Kibbutz.

Friday, January 8, 9:00 P.M. Left hotel in hired car about 10:00 A.M.—our driver was Nahum—hotel packed us box lunches. First we revisited Safad—stressing visit to Artists' Colony which is colorful and charming—certainly the quintessence of old world charm and medieval atmosphere. Narrow lanes and Safad blue are striking features. (A

color used on buildings there for five hundred years.)

Saturday, January 9, 8:15 A.M. Weather mostly good yesterday, although a little cloudy in Safad for picture taking. From Safad we went on to Meiron where we saw the ancient synagogue dating from the 2d century and the tombs of Rabbis Yohanan and Shim'on; and nearby beside a deep ravine, a cave where, according to tradition, Rabbi Hillel and his disciples were buried—to escape the desecration of the Romans. At Bar'am we saw the beginning restoration of the ancient Graeco-Roman synagogue, the best preserved in Israel—so beautiful that it is used as a decoration for the ½-pound Israeli note. We stopped beside the road with the sparkling Mediterranean below us in the distance to partake of our box lunches, prepared by our hosts, Galei Kinneret—lunch plentiful and very satisfactory.

Then went on to Nazareth where I was able at last to get some pictures of shouk (market) although in failing light. Revisited Church of Annunciation and St. Joseph's Church. Returned to hotel after dark, about 5:00 P.M., after taking leave of Judy and Roman Pe'er—he is excellent guide and has excellent knowledge of this country to which he came as immigrant in 1940 after wandering all over Europe and middle east as far as India.

10:30 P.M. Pe'er came with car and driver and he acted as our efficient, informative, and charming guide for another day. We headed in direction of Haifa, but turned south in direction of Caesarea. Stopped briefly to view excavations at Beit-She'arim (House of Gates) from road—was important town in 2d century A.D.—later destroyed by Romans. Then on to Caesarea and its amazing seaport ruins—incredible that it was city of 250,000 in Roman days and now effaced from earth except for moldering ruins. Nearby Roman temple, even now being excavated with its handsome male and female figures in porphyry and white marble respectively—both sitting in headless majesty. Then on to Atlit where the Crusaders' Castle of the Pilgrims guards the seacoast, a lonely and brooding bastion. Passed through Haifa—a lovely city—passed the Carmelite monastery—took pictures from there and from the Panorama—passed the Bahai shrine with its golden and white dome and the white marble replica of the Temple of Athena on the Acropolis, of chaste and unsurpassed beauty. Stopped for a moment at the old Technion (Technical Institute). City very beautiful—much like San Francisco with magnificent harbor—view from Mt. Carmel unsurpassed. Finished our day at Akko (Acre) walking full length of the incredibly massive Crusader wall and visiting the Arab Quarter within the gates—visiting old market and harbor—and beautiful 18th

century mosque which is being restored—city colorful and charming with its blended medieval and 18th century European and Turkish architecture. Had dinner at hotel at usual hour—Frederick Marches and (Dr.) Burrill B. Crohn (the gastroenterologist) at next table.

Monday, January 11, 8:30 A.M. A brilliant sunny day with snow-covered Mt. Hermon rising ghost-like in the golden morning sunlight far across the lake. Spent last day at hospital yesterday. Explored a poor fellow with abdominal masses—peculiar pathology but probably TB—in presence of visiting surgeon-in-chief from Safad—a nice fellow. Repeated femoral arteriogram on little girl with a. v. communications—got better pictures but no more information—made last rounds. Toxic thyroid doing *very* well. Recurrent adenoma has *all* the complications except cerebral damage. Both recurrent nerves now out and has mild tetany. Also slight subcut. emphysema of left side of face which is clearing. Packing removed with no further bleeding. If one recurrent (right, from initial examination) returns, she will be ahead of game. (She eventually recovered, with only slight facial palsy.) Took leave of all at hospital, including especially Mirvis who wants to spend year or two in states—we shall see what can be done.

Party last evening at hotel with 16 guests was unexcelled. Hotel gave us cocktail lounge as private dining room. Dinner excellent—I think a little special because of party. Plenty of cocktails, wines, and liqueurs. Bar going all evening—tended by two young and attractive fellows, one of whom supplied entertainment by playing accordion and piano *very* well. Party broke up amid many tearful farewells around midnight. Warmth of emotion was touching and almost without parallel to a pedestrian American like this diarist.

Wednesday, January 13, 7:00 A.M. A beautiful sunny day is dawning. On Monday A.M. we checked out of Galei Kinneret and started off for Tel Aviv about 10 A.M. in our private car with Gideon driving. Gideon was willing to take us on some important unfinished business, namely Beit She'an and the National Park near Afula. Because of unfamiliarity of driver we had to inquire in several languages before finding the former near an old Arab village now inhabited by Jews. We saw there the massive ruins of the best preserved Roman amphitheater in Israel and the huge Tel, site of ancient biblical city, which has been partially excavated by the U. of Penn. Our guide there was a diminutive Spanish- and Hebrew-speaking fellow. From there we went to the beautiful National Park, landscaped in exquisite taste about a crystal-clear stream and waterfall fed by nearby springs. Small fish could be seen playing in the glasslike water. Then on to Tel

Aviv where we arrived about 2:00 P.M. Our driver was very competent, but rather fast, and he gave us a few chills. We had reservations at Ramat Aviv Hotel which is rather lovely, but somewhat outside of the city on the north.

8:00 A.M. Hotel is ultramodern with outside cottages, and swimming pool unused at this time of year (in which there is some vegetation growing and in which we saw a frog)—tastefully landscaped with cactus of several varieties and reminiscent somewhat of the hostelrys at Las Vegas—except of course no gaming tables—and sparsity of furniture in room. Our bathroom, however, is best so far encountered—even shower curtain. In evening we walked to Opera House and saw adequate company play *Madam Butterfly* with cute Japanese girl playing lead and singing in lovely voice—whole production in Hebrew!—except we think lead, probably in Italian.

Met our driver at hotel today at 8:15 A.M. and left at 8:30 for 2 day trip to Jerusalem. Our driver, Josef, an estimable former Austrian who has been here 20 years, speaks excellent English—is good careful driver and we have a clean 1959 Dodge 7-seater. On way we saw many orange and grapefruit groves heavy with ripening fruit. We passed through Ramla, founded in 8th century, with its ruins of caravansary, and great tower built in 14th century, and Gezer and its excavations (1902), dating from the time of Solomon. At Kiryat Ya'rim we saw the Monastery of the Ark with its huge statue of Mary and Jesus on the hill and the Benedictine monastery in the village—restored from Crusader times and in turn on ruins of a Roman castle with spring flowing beneath. In climbing to the town thru ravine we passed the remains of many armored vehicles destroyed in War of 1948 and left as memorials to the gallant convoys to Jerusalem. On entering Jerusalem we passed Castel—high on mountain—controlling road—with fortification dating from Roman times—site of bitter fighting in 1948. At 12:00 noon we arrived at Hebrew University and made formal tour seeing Dead Sea Scrolls and magnificent buildings—taken on tour by charming English-speaking student guide. Checked in at sumptuous King David Hotel at 1:15 P.M.—met Dr. Joshua Cohen, director of hospitals, a Scotch lad—who then took us to Eitanim Hospital for lunch—psychiatric hospital on mountain top with breath-taking view—contrast of sere Arab held hills and green terraced Israeli countryside striking. Then did some sightseeing through housing developments and downtown area—got glimpse of Mt. Scopus, Mt. of Olives, and Mt. Sinai from observatory point right smack on Jordan border—could see Arab guards in sandbagged observation post on roof watching us

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through glasses. Sun setting and air hazy from desert dust.

Thursday, January 14, 11:20 P.M. Back at Ramat Aviv Hotel in Tel Aviv. Arose early and after breakfast in room, all met Dr. Cohen at 8:30. He took us to Hadassah Visitors' Club where we met Dr. Karpas, administrator of Hadassah Hospital. With Joseph driving and a Hadassah guide we visited the magnificent new buildings of Hebrew University Medical School and Hadassah Hospital on lofty bluff overlooking Ein Karem—much construction work—very dusty—question circular ward building and distance from city—but buildings beautiful and impressive. Visited nice center at Kiryat Hayovel where pilot Family and Community Health Service is conducted—treating families instead of people—may work well in Israel. Then released by Hadassah to continue sightseeing with our indefatigable Joseph. Visited Mea Shearim, the Chassidic orthodox Jewish quarter which is quite picturesque, and the handsome new building of the Chief Rabbinate. Then got glimpse of Bethlehem, visited Tomb of King David (Mt. Zion), site of the Last Supper, and room commemorating the Nazi massacres, Chamber of Destruction. In morning visited the Knesset (Parliament) (not in session)—and saw massive bronze Menorah (ritual candelabra) intricately modeled, gift of British Parliament. Also Mandelbaum Gate (which is not a gate)—portal of entry to Jordan. Jordanian and Israeli guards in sandbagged positions all about. Left Jerusalem for Tel Aviv just at dusk and returned to city in dark at 6:00 P.M. Weather warm and clear most of day—but desert dust haze increased in late afternoon.

Friday, January 15, 10:30 P.M. Our stay in Israel fast drawing to a close. Left at 8:30 A.M. to visit two largest hospitals in Israel with Joseph driving. Visited beautiful Beilinson Hospital (800 beds) first, which is operated by Kupat Cholim—met at front by affable and gracious young Dr. Amon Fried, Chief of Orthopedics and friend of Doctor Carroll Silver of Providence. He introduced me to young Dr. Sasson Yadoo who is chief resident of one of the two surgical services under Prof. Nathan, who was absent. He took me around and we discussed briefly patients on his wards. We all cabbed over to Tel Hashomer, which is an army hospital caring for 80% civilian patients, where we were met by Col. (M.C.) Spira in army uniform, chief of orthopedics, formerly organizer of medical services of Haganah, and of British medical services for Montgomery at El Alamein. A fine looking and highly intelligent gentleman. He and Dr. Sheba (internist, director of hospital and authority on the chemistry of genetics) took us around hospital. Hospital former British Army Hospital, originally built by U.S.A. as station hospital of cement block

RHODE ISLAND MEDICAL JOURNAL

pavilions. Has 800 patients with capacity of 1200—but can expand to 3000 under wartime conditions.

Dr. Spira brought us back to hotel—thence to picturesque Jaffa, where we saw Arabs smoking hookah water pipes on their Sabbath (Friday) and to terrace overlooking Mediterranean, near 300-year-old Church of St. Peter, built on Crusader foundations—rocks offshore site of story of Perseus and Medusa. City of Tel Aviv draped in pall of yellow smog caused by hot dusty winds from Arabian desert called Hamseen or Sharaf. Then on to lovely Mediterranean beach in sunset, where a few brave souls were frolicking on the beach and in the surf; ended our afternoon trip with a tour of the Weizmann Estate and grave at modern Rehovath. Landscaping is breathtakingly beautiful. Nearby Weizmann Institute is magnificent with new modern building of outstanding architectural virtuosity—a pity that it was too dusky to take pictures.

Saturday, January 16, 9:45 P.M. Left at 8:15 A.M. for trip to northern Negev. Visited the diggings at ancient Ashkelon, once an important Graeco-Roman port—saw remains of the inevitable Crusader walls, scattered columns and carvings from what must have been a very pretentious and beautiful Roman center. Then south to the Israeli guard station at the northern end of the Gaza strip and saw U.N. posts in the distance—saw Arabs plowing fields with camels in Egyptian Territory. We then began our trip across the northern Negev—land becoming increasingly arid as we traveled westward and finally as forbidding as any area on earth. Day warm and haze from persistent hamseen often almost obliterated outlines of distant objects. In the midst of sere desert we came upon modern Beer-Sheba—a near miracle in the desert having grown from a village of 300 to a mushrooming progressive city in 10 years. Stopped for lunch at the beautiful modernistic HIAS Negev center (Hebrew Immigrant Aid Society). Then deeper into the desert to an elevation of 1400 ft. and then the precipitous drop of 2700 ft. through a gorge of breathtaking grandeur with dun-colored precipices to a level of 1300 ft. below sea level, the lowest point on earth. Here we saw the potash and bromine plants at modern Sodom and the youth hostel on the shore of the lake backed up against sheer cliffs of age old rock salt, remaining undissolved in the desert air and acting as the rookery of innumerable chatting crows. We all tasted the salt water, containing 27% of solid matter. Then began our climb back to reality and in the hazy dusk saw many bedouins leading their camels back to tether near their low-lying black tents. Surprised at the numbers of camels we saw grazing on the poor desert stubble all afternoon. Reached Beer-Sheba at dusk and then began our

long ride back to Ramat Aviv, arriving at about 7:00 P.M. Bade a nostalgic farewell to our faithful and intelligent companion and guide, Joseph, who himself seemed a little sad at parting.

Sunday, January 17, 12:00 midnight. We have at last completed our month in Israel and our last day was as eventful as any. After breakfast we met our taxi for nearby Arkia airport (hardly 2 blocks from hotel). 8:30 A.M. flight took off about 9:00 A.M. in a nice clean DC3—one hour to Eilat—first flying down coast and then turning inland over now familiar Ashkelon and later Beer-Sheba, flying over some of the most desolate desert mountains to be seen anywhere on earth—dun-colored in the hazy yellowish haze with occasional flashes of blue of the higher peaks piercing the haze here and there. From the plane could be seen the regular black cross-hatchings in the mountain run-offs and wadis, the dams of the ancient Nabateans. We came out over Eilat and the upper Gulf of Akaba about 10:00 A.M. and swung into the little airport in the same yellowish haze—which almost all day almost obscured the lofty mountains of Trans-Jordan and Saudi Arabia. We were met at the airport by Raphael, our ex-German English-speaking guide and his jeep pick-up—ex-soldier, prospector, army photographer, and jack-of-all-trades. He took us through this surprising town of 6 to 7000 souls which shortly after the Sinai campaign sheltered only a few hundred. Many new housing areas are springing up—colorful and attractive in true Israeli style—we passed the Philip Murray center and other points of interest. He then took us to a youth pioneer camp in the desert (Beit Ora) where pre-army boys and girls were working hard at cleaning up and planting trees and shrubs. Then on to the fabulous King Solomon copper mines hard by King Solomon's Pillars—lofty amazing out-croppings and picked up pieces of quartz artifacts, shards, copper ore, and even a piece of petrified charcoal—also piles of stones and the remains of the wall enclosing the slave encampment—lying as they were left in the desert air 3,000 years ago. We then spent some time looking over the new copper extracting plant which sends its 70% copper extract to Japan. Then to a little new beach development where we had lunch. Jeep boiled over on way back but we managed to make town. In the afternoon we went out in the glass-bottomed boats—my first look at this colorful fairyland of coral and brilliant fish—despite 2 years in the SWPA and trips to Bermuda and Florida. Disturbed by plane leaving 2 hours late because of necessity for regular plane to return to Tel Aviv because of engine trouble. Bade adieu to Raphael and took off in dark at 7:00 P.M. Before dusk the haze had lifted enough so that we could see Akaba and the Arabian border point 5 miles

away across the Gulf—and later the lights of the town. On arriving at hotel we had late dinner at 9:00 P.M. Sat with Goldmans in lobby who had come up to bid all of us farewell. To our room at 10:00 P.M. to pack. Pe'er called us earlier to bid us good-bye—but we had not returned and he bade us a good journey by message. Lovely flowers in all rooms from Mrs. Spira to girls. To bed 12:45 A.M.

We departed from Tel Aviv on January 19th, one month to the day after our arrival. On taking leave of this interesting and intense little country we spoke the traditional Hebrew farewell, "Shalom" ("Peace," expressing, as does the graceful Hawaiian "Aloha," both greetings and farewell).

Check . . .

MAY 2 and 3, 1961

150th MEETING

Rhode Island Medical Society

See program on page 200

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DISTRICT MEDICAL SOCIETY MEETINGS

PROVIDENCE MEDICAL ASSOCIATION

A regular meeting of the Providence Medical Association was held at the Rhode Island Medical Society Library on Monday, March 6, 1961. The meeting was called to order by the president, Doctor Frank D. Fratanuono, at 8:30 P.M.

Minutes of Previous Meeting

The president announced that the minutes of the previous meeting would not be read but would be published in the RHODE ISLAND MEDICAL JOURNAL.

Report of the Secretary

Doctor William A. Reid reported on the Executive Committee as follows:

At a recent meeting of the Executive Committee matters relating to the status of certain members were resolved, the committee appointments of the president were approved, co-operation was extended to the Providence Junior Chamber of Commerce in its plans for the 325th Anniversary Celebration of the City of Providence, the plans of the Program Committee were reviewed, and the annual financial report of the Medical Milk Commission was received and reviewed.

The Executive Committee also reviewed the application and supplementary data submitted with the request for membership in the Association of Doctor Charles H. Jones, superintendent of Butler Health Center, and it now recommends to the Association his election as an active member.

Mr. President, I ask approval of this report and the election of Doctor Charles H. Jones to active membership.

Action: It was moved that the report of the secretary be received and placed on file and that Doctor Charles H. Jones be elected to active membership. The motion was seconded and adopted.

Announcements by the President

Doctor Fratanuono called to the attention of the membership that the April meeting would be held on the second Monday of the month — April 10th — instead of the customary first Monday.

He also called attention to the legislation introduced into the General Assembly by the State Medical Society to provide a physicians' lien on a

claim for services rendered to a person injured by reason of an accident not covered by the workmen's compensation act. He urged the members to write to the Committees on Judiciary of both the House and the Senate urging passage of the legislation.

Introduction of Textron Pharmaceutical Company President

Doctor Fratanuono called to the attention of the membership that the Textron Pharmaceutical Company had a display in the reading room of the Library and he called upon the president, Mr. Robert E. Grant, to address the membership briefly on the plans of the company which will operate out of Providence.

Scientific Program

The president introduced Doctor Alexander D. Langmuir to moderate a symposium on poliomyelitis. Doctor Langmuir is chief, Epidemiology Branch, Communicable Disease Center, Atlanta, Georgia, and a member of the Public Health Service Advisory Committee on Live Poliovirus Vaccine.

Doctor Langmuir called upon Doctor Joseph Oren, chief, Poliomyelitis Surveillance Unit, Epidemiology Branch, Communicable Disease Center, U.S. Department, Health, Education and Welfare, Atlanta, Georgia, and a leader of the PHS team to study the 1960 Providence epidemic, who gave a report on the Providence epidemic in 1960 utilizing descriptive material, copy of which was distributed to each member attending the meeting.

The annual poliomyelitis rate for the Rhode Island epidemic was 12/100,000 which is very much below the 1955 epidemic. The peak incidence occurred in July which is more than a month earlier than the previous epidemics and was concentrated in crowded lower middle and lower class homes, chiefly two housing projects.

Doctor Robert E. Serfling, chief, Statistics Section, Epidemiology Branch, Communicable Disease Center, Atlanta, Georgia, and an active consultant in Providence studies, was introduced by Doctor Langmuir to give a presentation on *Evaluation of the Control Program*.

A total of 121 cases were studied and of these 100 were proved poliomyelitis, 73 paralytic, 27 non-paralytic.

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PROVIDENCE MEDICAL ASSOCIATION*concluded from page 232*

In both groups the great majority were under ten years of age, 59% males, 41% females. There were many more bulbospinal, bulbar, and facial paralyses than usually encountered.

Incidence was lowest in the well vaccinated. A vaccine effectiveness of 81% was calculated.

The mass vaccination done in doctors' offices and public clinics is credited with being largely instrumental in stopping the epidemic.

The highest number of vaccinated people was found in the upper classes. It was pointed out that a large segment of the public remains unprotected.

Doctor Langmuir concluded the formal presentations with a discussion on *Current Status of the Oral Poliovirus Vaccines*.

Discussion

Doctor Raymond F. McAteer, assistant director of Health, Rhode Island State Department of Health; Doctor Joseph Smith, superintendent of Health, City of Providence; and Doctor Edward J. West, superintendent, Charles V. Chapin Hospital, Providence, discussed the report as submitted by the public health officials from Atlanta.

Adjournment

The meeting adjourned at 10:30 P.M.

Attendance was 138.

Collation was served.

* * *

A regular meeting of the Providence Medical Association was held at the Medical Library on Monday, February 6, 1961. The meeting was called to order by the president, Doctor Frank D. Fratanuono, at 8:30 P.M.

Minutes of Previous Meeting

As a reading of the minutes of the previous meeting was not requested, a motion was passed that the reading be dispensed and that they be published in the RHODE ISLAND MEDICAL JOURNAL.

Announcements by the President

Doctor Fratanuono announced that committee appointments have been made, and the men notified of their appointments.

He reported that the unexpired term on the executive committee of Doctor J. Merrill Gibson, who was elected vice-president at the annual meeting, would be filled by Doctor Gustavo A. Motta, of Providence.

He read announcements of a medical lecture to be held at Providence College on February 13 and a meeting of industrial physicians to be held on February 22 at the Cranston Print Works.

Presentation of Membership Certificate

Doctor Fratanuono awarded a certificate of membership in the Association to Doctor Jan S. Dudek who was elected at the January meeting of the Association.

Scientific Program

Doctor Fratanuono announced that due to illness in his family Doctor Richard A. Field had been unable to come to Providence to address the Association. However, Doctor William A. Hall, clinical research fellow at Massachusetts General Hospital and fellow in medicine at Harvard Medical School, had consented to replace Doctor Field on the program. He opened the discussion of the subject *Hypophyseal Stalk Section in the Treatment of Hemorrhagic Diabetic Retinopathy*.

Doctor Hall stated that marked improvement in diabetic retinopathy had been observed following post-partum hemorrhage and pituitary necrosis. This observation led Doctor Field and Doctor William H. Sweet to devise a method to produce anterior pituitary necrosis by sectioning the hypophyseal stalk which has proved highly successful in halting the advance of diabetic retinopathy.

Endocrine side effects are considerable. All develop myxedema if not treated. All develop a transient diabetes insipid. There is a drop in 17 ketosteroids. Some require salt-retaining steroid. All males become impotent but are relieved by testosterone. All become sterile.

Doctor Joel S. Contreras, clinical fellow, Massachusetts Eye and Ear Infirmary and consultant ophthalmologist, Diabetes Unit, Massachusetts General Hospital, continued the discussion and described in detail the ophthalmologic changes in diabetic retinopathy following pituitary stalk section.

General Discussion

The general discussion was led by Doctors Louis I. Kramer and Hannibal E. Hamlin.

Adjournment

The meeting adjourned at 9:50 P.M.

Collation was served.

Attendance was 48.

Respectfully submitted,

WILLIAM A. REID, M.D., *Secretary*

ANNUAL GOLF TOURNAMENT

and

DINNER

Wednesday, June 14, 1961

Providence Medical Association

BOOK REVIEWS

CANCER OF THE CERVIX. Diagnosis of Early Forms. In honour of Prof. Dr. C. Kaufmann. Ciba Foundation Study Group No. 3. Editors: G.E.W. Wolstenholme and Maeve O'Connor. Little, Brown & Co., Bost., 1960. \$2.50

The Ciba Foundation is to be congratulated on bringing together such outstanding authorities from Europe and America to present their different views on the early diagnosis and treatment of cancer in situ of the cervix.

This small book of one hundred and ten pages is a collection of papers on the subject, rather than a textbook. The book consists of six reports with an added short communication on atypical hyperplasia of the endometrium with an attempted definition of Stage-0 carcinoma corporis uteri.

Each article is presented by a different writer who has devoted many years of research in his particular field of interest. The papers presented show thorough, careful work, and each article is followed by a bibliography and a discussion participated in by each worker attending the symposium.

The first paper is concerned with the classification of so-called carcinoma in situ. Doctor Hamprel applies the morphological concept to his classification and distinguishes five groups. One is impressed with the difficulties in the proper interpretation of the different groups presented. Doctor Hamprel himself concludes that proper evaluation of his classification must await further careful follow-up of his patients.

The second paper presented by the Radiumhemmet group also is concerned with the classification and early diagnosis of carcinoma in situ of the cervix. It is simpler than the first classification. Their Stage-0 generally follows Doctor Novak's definition of carcinoma in situ. It is interesting to note that they subdivide Stage-I cancer into Stage-Ia, or preclinical carcinoma, and Stage-Ib, or clinical carcinoma.

It is a well-known fact that the criteria of early invasive carcinoma vary considerably among different pathologists. These two first papers show the importance of an early agreement, at an international level, on a recognized classification, so that, when we present our therapeutic results for the different stages, we shall be speaking the same language.

There is no doubt that much remains to be learned about carcinoma in situ, and it is to be hoped that an international classification can soon be established to help in a better understanding of its complex ramifications.

A paper on the use of the optical and electron microscopes is very interesting. In time the study of chromosomal and cytoplasmic cytopathology will add to our knowledge, but at present diagnosis still depends on the cellular and structural anomalies of the epithelium.

Doctor James G. Lawson seeks a biochemical approach to a better understanding of carcinoma in situ. His group is studying the activities of enzymes in the vaginal fluid. Evaluation of the biochemical approach must await further research and investigation "both from the diagnostic and the prognostic aspect."

The paper presented by C. Kaufmann and K. G. Ober describes an attempt to determine the incidence of carcinoma in situ of the cervix in different age groups. This interesting article shows that, in the child-bearing age, glands extend over the portio surface of the cervix and are low in the cervical canal. In older women the glands are located deep within the cervical canal. It is well to keep this fact in mind when doing a cone biopsy. In older women cervical conization should extend deep towards the internal os but in young women it need not be so extensive. Their investigation shows also that squamous epithelium extends further into the cervical canal with increasing age. Cancer in situ is found at the squamous-columnar junction, but it is also frequently found over the lower cervical glands. This point should be remembered when taking a Papanicolaou smear to include cells from the endocervical canal.

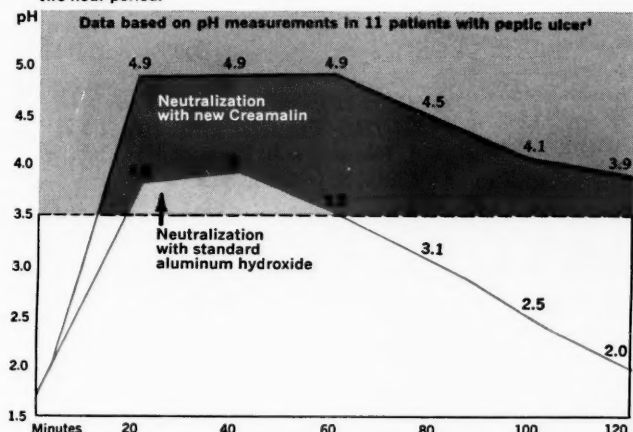
The last article in this series is by Doctors P. A. Young and A. Y. Kevorkian. It is a very practical clinical study outlining the method used at the Free Hospital for Women in Brookline, Massachusetts, for the detection and therapy of cancer in situ. They emphasize the importance of using all methods of detection available for the early diagnosis of cancer in situ and early malignant lesions of the cervix. They make use of the Schiller test and consider multiple punch biopsies of the entire cervical surface and endocervical curettage as an adequate

concluded on page 236

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the
site
of
peptic
ulcer



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Dosage: Gastric hyperacidity— from 2 to 4 tablets as necessary. Peptic ulcer or gastritis— from 2 to 4 tablets every two to four hours. Tablets may be chewed, swallowed whole with water or milk, or allowed to dissolve in the mouth. **How supplied:** Bottles of 50, 100, 200 and 1000.

1. Data in the files of the Department of Medical Research, Winthrop Laboratories. 2. Hinkel, E. T., Jr.; Fisher, M. P., and Tainter, M. L.: *J. Am. Pharm. A. (Scient. Ed.)* 48:384, July, 1959.

for peptic ulcer ■ gastritis ■ gastric hyperacidity

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BOOK REVIEWS

concluded from page 234

method for ruling out invasive cervical carcinoma. They state that, if all the methods available for the diagnosis of cancer in situ were applied by all physicians routinely and periodically, cancer of the cervix would be largely prevented. The article is followed by an appendix covering thoroughly the use of the Schiller test. It includes diagrams of cervixes showing the various normal pathological conditions revealed by this test.

This book is a useful addition to our knowledge and understanding of cancer in situ as well as the many related problems yet to be solved. All of the papers are carefully prepared incorporating the best known facts. I particularly enjoyed it and recommend it highly to all gynecologists and clinicians who are interested in obtaining a better understanding of this condition.

RALPH DiLEONE, M.D.

SIGHT. A Handbook for Laymen by Roy O. Scholz, M.D. Doubleday & Co., Inc., Garden City, 1960. \$3.50

This very readable book, written as the author states "to help answer the many intelligent questions patients ask their eye doctors," admirably accomplishes its purpose. In its 262 pages there is a wealth of general information which could be read

RHODE ISLAND MEDICAL JOURNAL

by teachers, general practitioners, and pediatricians especially with great benefit both to themselves and their patients.

Closely associated with the Wilmer Ophthalmological Institute of the Johns Hopkins Hospital for over twenty years, in both a clinical and teaching capacity, the author is immensely qualified to write a book on ophthalmology for lay consumption.

The chapters on crossed eye, glaucoma, and cataracts are especially well written. There is a complete glossary of terms which is helpful in understanding an ophthalmologist's special vocabulary.

The author's knowledge and interest in the history of medicine adds spice to the information presented. Highly recommended.

LEE G. SANNELLA, M.D.

THE LIFE EXTENSION FOUNDATION GUIDE TO BETTER HEALTH by Harry J. Johnson, M.D. Prentice-Hall, Inc., Englewood Cliffs, N.J., 1959. \$4.95

The material for this book, written for the layman, comes from the medical records of the Life Extension Examiners, of which the author, Harry J. Johnson, M.D., is the medical director, and from the files of the companion organization the Life Extension Foundation. The book is written in simple language; the style suggests a family doctor talking to a group of his patients. There are many anecdotes, some familiar, as the story of Mark Twain being relieved of his dyspnea after mistakenly breaking a glass bookcase instead of a window, others from the author's experience.

Doctor Johnson stresses the need for adequate sleep and recreation. He recommends a balanced diet and emphasizes that fads, health foods, and vitamins are unnecessary for the maintenance of normal robust health. Patients on reducing diets should be urged to change their eating habits and should not count calories, using calorie tables only as a guide for identifying foods to be avoided. In the chapter on tensions he points out that such emotional states are normal, and the trouble comes only when we deal with our tensions unrealistically. Alcoholic beverages and tobacco are permitted for most people moderately, but Doctor Johnson admits he does not smoke. Heart disease and hypertension are discussed in separate chapters, simply but factually.

In the concluding chapters, exercise in a sensible manner and regular periodic medical examinations are urged for everyone.

This book has no interest for the physician himself, but when patients ask the doctor to recommend a good health book, this one can be mentioned without reservation.

A. L. LAGERQUIST, M.D.

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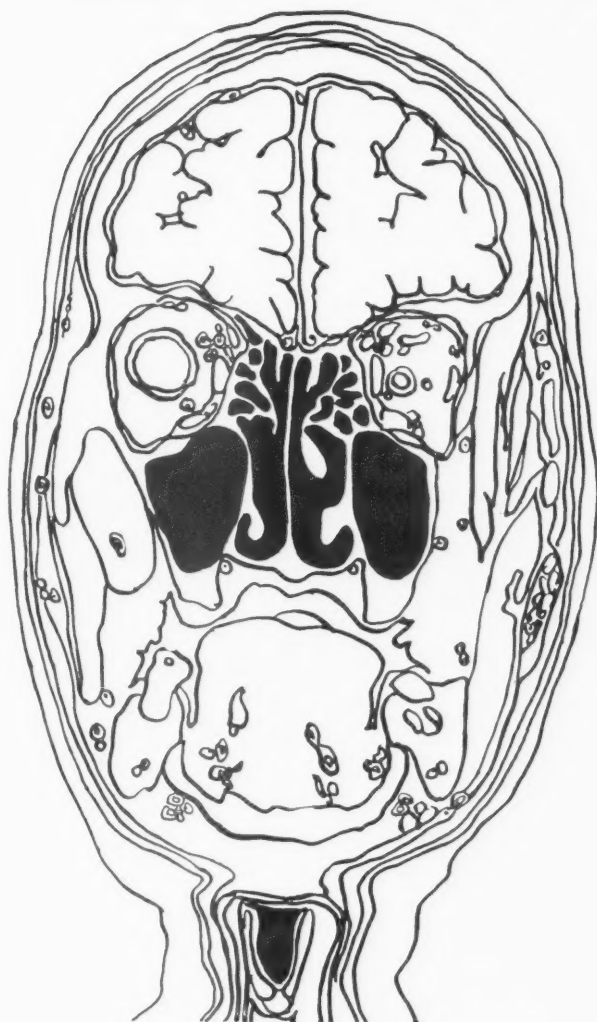
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Public Health Service Studying Flu Epidemics Overseas

Doctor Luther L. Terry, Surgeon General Designate of the Public Health Service, said recently that the Service is studying all aspects of the influenza epidemics now occurring in Great Britain and Japan.

He said that a Public Health Service physician, stationed in London, is sending frequent reports on the British epidemic to the Service's headquarters in London. Data on the Japanese epidemic is supplied to the Service by the World Health Organization. Also, the Service's Communicable Disease Center in Atlanta is in touch with all state health departments to check for signs of increased incidence in this country.

Thus far, Doctor Terry said, there seems to be no indication that the United States should expect any unusual number of influenza cases.

Although influenza is not one of the diseases that must be reported to the Public Health Service, over half the state health departments at this time last year had indicated that flu was prevalent in their areas. None has done so this year. Another indication that there is no unusual amount of influenza here this year is found in the mortality data which 108 cities routinely report to the Communicable Disease Center each week. Last year, the total flu and pneumonia deaths reported by these 108 cities ranged between 600 and 1,000 deaths a week in January and early February. This year about 500 such deaths have been reported each week. This is well within the limit of what would normally be expected at this time of year.

Asian influenza was the type prevalent here last year and is the type now causing the epidemic in Great Britain. Exposure to cases last year should give most Americans immunity to Asian flu for the next two or three years.

The epidemic in Japan, however, is believed to be caused by the B-type influenza virus, which has not been prevalent in this country for about six years. This makes the Japanese epidemic more of a threat

than the Great Britain epidemic, Doctor Terry said, although there is presently no cause for alarm.

He said that some people are protected against both types of flu because they have been vaccinated with multivalent vaccine which provides protection against Asian, B and two other types of influenza.

Last fall, Doctor Terry pointed out, the Public Health Service instituted a campaign to urge private physicians and public health officials to do all they could to see that flu vaccine was given to persons with certain types of diseases (such as cardiac disorders, bronchopulmonary diseases, diabetes, and Addison's disease); to pregnant women; and to all persons over sixty-five years of age. In the past, most influenza deaths have occurred among these three groups.

"If the people in these three groups have been vaccinated so that they do not get the disease," Doctor Terry said, "there will be little danger of influenza fatalities even if an epidemic should occur."

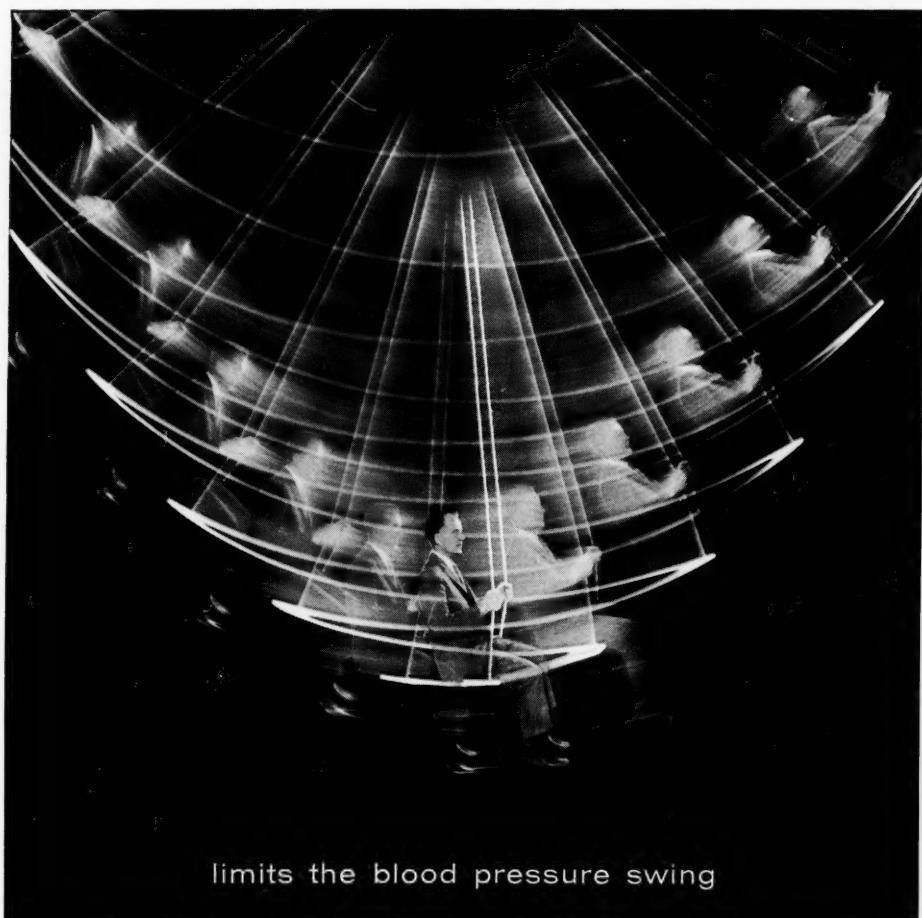
Vaccination after an epidemic strikes has little effect, according to Doctor Terry, because every one is exposed to the disease almost simultaneously. He urged that those in the three groups for whom the disease is sometimes fatal get vaccinated now if they did not do so last fall.

According to informal reports from manufacturers of vaccine, there is an adequate supply for continued vaccination of the high risk groups, even though stocks of some individual manufacturers are depleted.

Schizophrenia on the Rise

This nation's number one mental health problem, schizophrenia, is on the rise, according to *Patterns of Disease*, a Parke, Davis & Company publication for the medical profession. Of patients with mental disorders newly admitted to state hospitals, schizophrenia tops the list with 23%, followed closely by senile psychosis and cerebral arteriosclerosis which together account for 21%. Alcoholism ranks third with 14%, according to *Patterns*.

continued on page 240



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THROUGH THE MICROSCOPE

continued from page 238

Medicine's Biggest Mystery

Colds and other respiratory tract infections put more Americans out of action each year than all other acute illnesses combined, according to a current issue of *Patterns of Disease*, a Parke, Davis & Company publication for the medical profession.

Of all acute conditions — those lasting from 1 to 90 days — three out of every five are respiratory. And one in every three respiratory infections is a cold.

Compared to the vast numbers stricken annually by respiratory illnesses, the casualty rate of other acute conditions is fairly light. Infections and parasitic diseases, for instance, though the second major cause of acute illnesses, account for only slightly more than one in every ten of these conditions. And such other ailments as those of the digestive system, fractures and sprains, and open wounds and lacerations, each comprise even less than one in every ten.

In terms of lost workdays, the annual toll exacted by respiratory infections is a staggering one. In one year 80 million workdays were lost because of them — a figure which represents 41% of all workdays lost because of acute conditions. Injuries, the second leading cause of absence from work, were respon-

RHODE ISLAND MEDICAL JOURNAL

sible for 31% of days lost due to acute illnesses.

The loss of school days is even greater. More than 110 million school days are lost annually through respiratory illnesses — and 58% of all absences from school due to acute conditions are caused by respiratory ailments.

Yet although these illnesses inflict such huge annual damage, they remain, medically speaking, a mystery. Even efforts to pinpoint causes have fallen far short of success.

Old-Age Hospitalization Coverage Extended by Continental

A broad, private industry solution to the growing need for effective old-age hospitalization protection was announced early this month by Continental Casualty Company, Chicago.

For the first time, the company will provide on a national basis its combination insurance package consisting of "65 Plus," a short-term hospital-surgical plan, and "5,000 Reserve," for extended hospitalization protection.

Tailored to the needs of persons 65 and older, the plan stems from Continental's experience in insuring more than 1,000,000 persons in the retirement years.

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which the company believes are vital to the effectiveness of any old-age health plan, namely: (1) the insurance must be available to everyone 65 and over; (2) it must be permanent; (3) it must cover medical and health conditions existing prior to enrollment; and (4) it must have a low monthly premium.

Under a newly announced Continental policy, persons not now 65 may apply for the program at any time within 30 days after reaching their 65th birthday.

Despite the widespread mistaken notion that the aged are unable to pay for their medical care, surveys show that 50 per cent of the aged already have some form of hospital insurance, and most can meet their medical bills.

According to these surveys, 80 per cent of the aged say they could pay a \$500 medical bill from their own resources, while 68 per cent said they could handle a \$1,000 to \$5,000 bill.

Thoughts for Taxpayers

The New Jersey Taxpayers Association has recently called attention to some facts of compelling significance to all taxpayers. In New Jersey during the calendar year of 1959, taxes reached the grand total of four and one-half billion dollars—an aver-

age of \$770 for every man, woman, and child in the state.

And where does the money go? Of the \$4½ billion paid by New Jersey taxpayers last year \$3,345,000,000 represented this state's share (more than 4%) of the total federal tax bite totaling nearly \$80 billion. In addition, \$345 million went for state government in New Jersey; \$142 million for county government; \$346 million for municipal government; and \$373 million for schools. The grand total comes to \$4,551,000,000. . . Each New Jersey child today has a \$2,000 mortgage—his share of the \$286 billion federal government debt.

New Jersey pays a high rate for federal aid—\$2.62 for every dollar in aid received. The cost of a federal "aid" dollar in New Jersey was topped only in Delaware, whose taxpayers paid \$2.65 for each dollar in "aid" received from Washington. Other states paying in premium for every dollar of federal aid received included Connecticut, \$2.05; Indiana, \$1.87; New York, \$1.79; Illinois, \$1.71; Pennsylvania, \$1.67; Ohio, \$1.40; Maryland, \$1.38; Michigan, \$1.38; Wisconsin, \$1.30; Massachusetts, \$1.29; Virginia, \$1.15; California, \$1.08. All other states receive "cut rate" federal aid dollars ranging from 97 cents for Florida to 16 cents for Alaska.

The "cut rate" list follows: Florida, 97 cents;

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Minnesota, 93 cents; Hawaii, 83 cents; Nebraska, 81 cents; Rhode Island, 78 cents; Oregon, 75 cents; Washington, 75 cents; District of Columbia, 74 cents; New Hampshire, 74 cents; West Virginia, 74 cents; Kansas, 73 cents; Texas, 73 cents; Maine, 71 cents; Iowa, 67 cents; Missouri, 65 cents; Tennessee, 64 cents; Vermont, 64 cents; Utah, 62 cents; North Carolina, 61 cents; Kentucky, 60 cents; Colorado, 54 cents; South Carolina, 54 cents; Georgia, 51 cents; Idaho, 49 cents; Arizona, 48 cents; Montana, 48 cents; Nevada, 48 cents; Louisiana, 45 cents; Alabama, 41 cents; South Dakota, 37 cents; Oklahoma, 34 cents; North Dakota, 32 cents; Wyoming, 31 cents; Arkansas, 30 cents; New Mexico, 27 cents; Mississippi, 25 cents; Alaska, 16 cents.

...As reported in the *Membership Newsletter* of the New Jersey Medical Society, January, 1961

Outlook for New England Employment in 1961

Second-half 1961 trends in employment are likely to be more vigorous than in the early months of the year, the Bureau of Labor Statistics of the U.S. Department of Labor reports. Based upon seasonal factors alone, the course of New England's manufacturing jobs in the first five months of 1961 should slope downward. The trend of the Region's factory employment, again based upon seasonality, should be upward throughout the last half-year. Some temporary interruption will be occasioned by

July vacation shutdowns.

During much of 1960, month-to-month performances of the factory sector have been below the customary seasonal strength. The normal seasonal decline expected in early 1961 may be intensified by cyclical contraction unless there emerges a reversal in trends not currently visible.

The seasonal expectancy for nondurable manufacturing differs widely from durable goods in New England. More responsive to calendar forces, the first-named group can be expected to decline in January, rally briefly in February, and then drift successively lower in March, April, and May. The record of 1960 has been one of less than average seasonal strength, particularly in textiles and shoes, and a deeper than usual dip remains a possibility for early 1961.

Nurses Ask Legislation for Collective Bargaining Bill

Representatives of the Oregon Nurses Association met in early January with the Oregon State Medical Society's Liaison Committee and a few days later conferred with the president and president-elect of the Multnomah County Medical Society on a vital issue that could well affect the cost and quality of patient care throughout the state.

The issue is a legislative proposal sponsored by the ONA which would require employers in health care facilities with four or more employees to enter into collective bargaining on wages and working conditions. It further provides that in event agreements are not reached in this manner, the State Commissioner of Labor shall conduct an investigation and publish his findings in the news media of the area.

Catholic Hospital Services Reported in New Directory

The 32d annual directory issue of *HOSPITAL PROGRESS* magazine issued by the Catholic Hospital Association of the United States and Canada, includes the following data:

In the U.S., Canada and Puerto Rico, there are 1,155 Catholic hospitals with 202,033 beds and 27,865 bassinets. Of these 1,050 are general short-term hospitals; 11 maternity; five pediatric and 13 other special short-term hospitals. In the special long-term hospital group 29 are chronic-convalescent; 20 psychiatric; 10 tuberculosis and two in other categories. The East North Central states (Ohio, Indiana, Illinois, Michigan, and Wisconsin) have the largest number of these hospitals.

Related health facilities in the U.S., and Puerto Rico are: homes for the aged 185; cancer seven; chronic-convalescent 90; maternity 6; clinics 9; visiting nurse 38; other facilities 14. In Canada there are 20 chronic-convalescent; 26 homes for the

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aged; two maternity; four visiting nurse, and one other category.

The 1961 directory also inaugurates reports of utilization of beds and bassinets in Catholic hospitals for 1960. On the average day in 1960 there were 105,217 patients in Catholic hospitals throughout the United States as reported by the 852 hospitals out of 868. There were almost five million admissions reported by these hospitals. It is interesting to note that 682 of the reporting hospitals recorded 1,712,360 Catholic admissions which represents 44 per cent of the patients admitted to those hospitals, and conversely 56 per cent were non-Catholic admissions.

The per cent of occupancy was 76 per cent which reflects the national occupancy rate for this type of hospital. The East North Central region reported the highest occupancy rate, while the lowest rate of occupancy was reported by the Pacific region. Seven hundred and eighty-five of the hospitals reported 876,913 births and an average daily census of 11,169 with a bassinet occupancy rate of 52 per cent. On the average day during 1960, 2,396 children were born in United States Catholic hospitals, as reflected in the records of reporting hospitals.

There are 62 practical nursing programs in operation in twenty-five states, the District of Columbia and Puerto Rico. In professional nursing there are 318 schools with pre-service programs; 36 schools with baccalaureate programs for registered nurses and six schools offering master's degree programs in a total of 387 institutions in the U.S. Nearly three fourths of the 318 schools are fully accredited by the National League for Nursing. Canada has 25 nursing assistant programs; 86 pre-service professional programs and five graduate nurse programs in a total of 108 institutions.

The number of religious on active duty in hospitals in the U.S., Canada and Puerto Rico is 18,804. Of this number 8,411 are registered nurses.

20 Million Dollars in Research Contracts**Issued by NIH**

The National Institutes of Health, the Public Health Service research center at Bethesda, Maryland, announced in March that 158 research contracts, totaling \$20,301,718.30, were in effect as of December 31, 1960.

The contracts, made for specific research and development objectives, are with 114 organizations in 26 states, the District of Columbia, and five foreign countries—Denmark, Finland, Italy, Norway, and Mexico.

Doctor James A. Shannon, director of the National Institutes of Health, explained that use of the research contract mechanism is essential for

research and development activities with limited, highly specific objectives which can best be performed outside the laboratories of NIH. Additionally, he said, the contracts frequently permit utilization of highly specialized technical skills, equipment, or data not otherwise available.

Mass-testing operations in search of new drugs for cancer treatment, establishment of pilot plants for large-scale production of drugs, and breeding and production of special strains of laboratory animals are among the projects supported by Public Health Service research contracts.

Computer Screens Electrocardiograms for Heart Abnormalities

A milestone in application of electronic data computing to medical diagnosis was reported last month by two Veterans Administration physicians.

Doctor David Littman, of the West Roxbury (Mass.) VA hospital and Harvard Medical School, together with Doctor Hubert V. Pipberger of Mt. Alto VA hospital, Washington, D.C., and Georgetown University School of Medicine, said a computer has screened electrocardiograms for heart abnormalities with an average of between 95 and 100 per cent accuracy in diagnostic decisions.

This is far better than the general average for

concluded on next page

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readings by physicians because both electrocardiograms and vectorcardiograms were used for comparison. The computer can make a much more rapid and detailed study of the heart record than possible by visual analysis.

The computer indicated whether the heart records were normal but did not make a specific diagnosis of the sort of heart abnormality present.

The VA research is the first such program in which data collecting, data processing, and diagnostic decision are made entirely by technicians and machines. The physician needs to read and interpret, therefore, only those records which are recognized by the computer as being abnormal.

The research, a joint project of the VA and the National Bureau of Standards, has been under way since 1957.

Heart electrical output records of more than 2,500 VA patients have been recorded on magnetic tape and converted into numerical form for processing by a computer at the Bureau of Standards. Four other VA hospitals also are participating in the research.

Gov't Employee Plan: Pay More, Get More

Four out of every five persons covered by the health insurance plans offered under the huge Federal Employees Health Benefits Program have chosen to pay higher premiums for more benefits.

the Health Insurance Institute reported recently.

The program, the largest and most complex voluntary health insurance plan in the world, got under way last July 1. At that time it was estimated that a total of four million persons, composed of 1.8 million Federal employees and their 2.2 million dependents, would enroll in the program.

However, analysis by the Institute of enrollment statistics released by the U.S. Civil Service Commission disclosed that actual enrollment exceeded the estimate by more than one million persons, reaching a total of 5.2 million persons, consisting of 1.7 million employees and their nearly 3.5 million dependents.

When the program went into effect, the two million employees of the Federal Government were offered a total of 36 health insurance plans with 56 options, which gave them the choice of paying higher premiums in return for greater benefits, or paying lower premiums and receiving smaller benefits.

High Option. Of the 5.2 million persons who enrolled, 4.1 million decided in favor of the high option, and 1.1 million selected the low option, said the Institute.

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